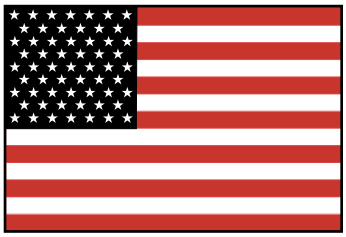
U.S. Department
of Transportation
**Federal Aviation
Administration**

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR
43–16A

AVIATION MAINTENANCE ALERTS



ALERT
NUMBER
287

JUNE
2002

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20590

AVIATION MAINTENANCE ALERTS

The Aviation Maintenance Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those who operate and maintain civil aeronautical products. The contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Designee Standardization Branch (AFS-640); P.O. Box 25082; Oklahoma City, OK 73125-5029.

AIRPLANES

AERO COMMANDER

Aero Commander; Model 500S; Shrike; Hydraulic System Failure; ATA 2900

During flight, the pilot lost all hydraulic system pressure and quantity. He declared an emergency and landed the aircraft with minor damage and no personal injury.

The technician discovered a hydraulic system pressure line ruptured and depleted the system fluid. The hydraulic system pump pressure line (P/N 790246-167) and the supply line (P/N 790246-197) are routed forward of each main landing gear assembly and run from the engine-driven hydraulic pumps to the hydraulic system pressure regulator. As these lines are routed, there is distance of approximately 16 inches where they are not supported. It was in this area on the right side that the pressure line ruptured due to chafing and vibration during operation.

Access to the hydraulic lines at the defect location is very limited and difficult. The submitter suggested expending extra effort during scheduled inspections to ensure the lines are safe for continued operation. He recommended installing support clamps and a chafe block to prevent further damage to the hydraulic lines.

Part total time-2,994 hours.

Aero Commander; Model 560; Twin Commander; Defective Rudder Attachment; ATA 2720

During a scheduled inspection, a technician discovered a structural discrepancy with the rudder attachment.

The technician was checking the rudder for proper travel and noticed when the rudder contacted the stop, a small amount of hand pressure at the trailing edge caused the rudder to travel an additional inch. Inspecting further, he discovered all the rivets on the top and bottom of the rudder torque tube (P/N 5420014-157) were loose and/or worn.

The submitter speculated this damage occurred when the aircraft was parked outside in "gusty wind" conditions without installing the flight control surface locks. If this defect had not been found and fixed, the rudder control surface might have been lost during flight!

Part total time-6,247 hours.

BEECH

Beech; Model C24R; Sierra; Landing Gear Failure; ATA 3222

During a takeoff, the lower section of the nose landing gear separated from the aircraft. The pilot was not aware of this problem until FAA personnel notified him just prior to landing at the destination airport. With emergency personnel standing by, he made a successful landing without the aid of the nose gear. With only the lower portion of the nose gear missing, the gear position indications in the cockpit were normal (gear up or gear down).

While investigating the accident, an inspector discovered the bottom half of the nose gear strut housing was fractured at the collar assembly. (Refer to the illustration.) Both "tow limit" stop bolts and a nose steering rod-end were bent and distorted. These defects indicated the strut failure resulted from excessive stress imposed when the turn limits were exceeded while moving the aircraft on the ground.

It seems obvious that prevention of this type defect resides in proper training and motivation of personnel!

Part total time not reported.

Beech; Model F33A; Bonanza; Landing Gear Failure; ATA 3230

The pilot delivered the aircraft to a maintenance shop and reported the landing gear would not retract after takeoff.

Maintenance technicians placed the aircraft on jacks and cycled the landing gear. After cycling the gear several times, they determined the dynamic relay (Eaton P/N SM50D7) would occasionally "stick" in the down position and prevent gear retraction. After the dynamic relay was replaced, the landing gear system functioned properly.

The submitter did not give a cause for the dynamic relay failure. Given the relatively short time in service, it would seem the relay failure was premature. The FAA Service Difficulty Program data base contains 25 reported failures of the same part number relay. However, this part is used in different applications (wing flaps/landing gear) on different models of Beech aircraft including C-90, 1900, 58, and F33 Bonanza, as well as other aircraft.

Part total time-244 hours.

Beech; Model F33A; Bonanza; Defective Engine-Driven Fuel Pump; ATA 2822

During a scheduled inspection, a technician discovered engine oil leaking from the drain port on the engine-driven fuel pump (P/N 655243-2).

The technician investigated the problem and complied with Teledyne Continental Service Bulletin (CSB) 01-1, dated April 25, 2001. CSB 01-1, Figure 4, states certain fuel pumps (P/N 655243-2) are not affected. CSB 01-1 deals with fuel leakage from the pump drain port but does not mention oil leakage.

The submitter is involved with a large fleet of like aircraft. He stated, “A defective seal might leak fuel, oil, or a combination of the two. The leaks usually occur at lower engine power settings; however, air may be drawn into the fuel system at higher power settings causing rough engine operation.”
He recommended removing the fuel pump from service when any sign of fuel or oil stain is detected.

Part total time-442 hours.

Beech; Model 58; Baron; Defective Flight Control Cable; ATA 2730

While conducting a scheduled inspection, a technician found a defective elevator control cable.

The elevator cable (P/N 58-524015) was severely frayed and in danger of separation. The cable damage was located adjacent to the forward lower cable pulley. Aircraft flight control cables are susceptible to this type of damage at places where a change of direction is required or chafing action is encountered. Any change of cable direction causes the cable strands to bend and “work hardening” can occur. In this case, age and the high number of operating hours were likely factors for the fraying.

These areas deserve your full attention during scheduled inspections and maintenance.

Part total time-15,450 hours.

Beech; Model 58; Baron; Nacelle Structural Damage; ATA 5742

During a scheduled inspection, a technician discovered structural damage in the right engine nacelle.

The upper “U” channel on the engine firewall was severely cracked. It appeared the crack developed where the engine mount bolt passes through the firewall.

The submitter speculated normal engine vibration and the high number of operating hours caused this damage. He suggested the manufacturer design a “beef-up” modification for installation in this area.
He stated it is common to find this type of damage on like aircraft.

Part total time-10,163 hours

Beech; Model 58; Baron; Defective Fuel Indicator; ATA 2841

While inspecting the aircraft, a technician discovered the left wing fuel quantity sight gauge was defective.

The technician obtained a new fuel sight gauge (Rapid P/N 002-381002-5) and proceeded to install the new gauge. During the installation, he discovered the float arm was indexed 180 degrees from the original gauge. Due to the index anomaly, the float arm contacted the curve of the wing leading edge and obstructed the float arm travel. The gauge would not read below 45 gallons in this condition. He obtained another new sight gauge; however, it too had an index anomaly.

The submitter suspected the index anomaly occurred during the manufacturing process. He returned the defective parts to the manufacturer with a report detailing the problem. All technicians should be aware of this problem when replacing a fuel sight gauge.

Part total time-0 hours.

Beech; Model F90; King Air; Engine Fuel Leak; ATA 7310

During a postflight inspection, a technician noticed fuel leaking from the right engine cowling.

The technician opened the cowling and discovered a fuel line was cracked. The fuel return line (P/N 3011849) runs from a “tee” fitting to the engine fuel control unit (FCU). The crack was adjacent to a “B” nut on the FCU end of the line.

The submitter stated it appeared the line was bent or twisted when a “B” nut of another line attached to the “tee” fitting was tightened without holding the “tee” fitting. He found similar damage on the left engine. He recommended checking the fuel line closely during scheduled inspections. He stressed the importance of using the proper wrench to hold the fitting when tightening any aircraft plumbing.

Part total time-6,208 hours.

Beech; Model 100; King Air; Smoke in the Cockpit; ATA 3310

Immediately after takeoff, the pilot detected smoke in the cockpit. The smoke appeared to be coming from the pedestal trim switch subpanel. The smoke emission ceased when the pedestal light circuit breaker opened. The smoke emission was not severe, and he made a safe landing.

A maintenance technician investigated the cause of this incident and found a light strip lamp on the pedestal electrical panel (P/N 97-524048) had shorted to ground.

The submitter cautioned all technicians to check the light strip closely during scheduled inspections to ensure it is in a condition for safe operation.

Part total time-8,987 hours.

Beech; Model 100; King Air; Landing Gear Failure; ATA 3213

During a landing, the right main landing gear broke and separated from the aircraft.

A technician discovered the “torque knee” (P/N 50-810323) failed at the upper pivot pin. There was a section missing from the inboard half of the torque knee. The outboard section was broken but still partially attached. It appeared the failure was the result of cracks that went through the grease fitting holes at the pivot point.

The submitter speculated the “torque knee” was subjected to excessive side loads during previous landings.

Part total time not reported.

Beech; Model 300; King Air; Fuel Pressure Anomaly; ATA 2844

Immediately after takeoff, the pilot noticed the “low pressure” fuel light was illuminated. He returned to the departure airport and made a safe landing.

During an operational test, the technician determined the actual fuel pressure output was within limits. Investigating further, he discovered the fuel pressure switch (P/N 100-389018-23) was defective.

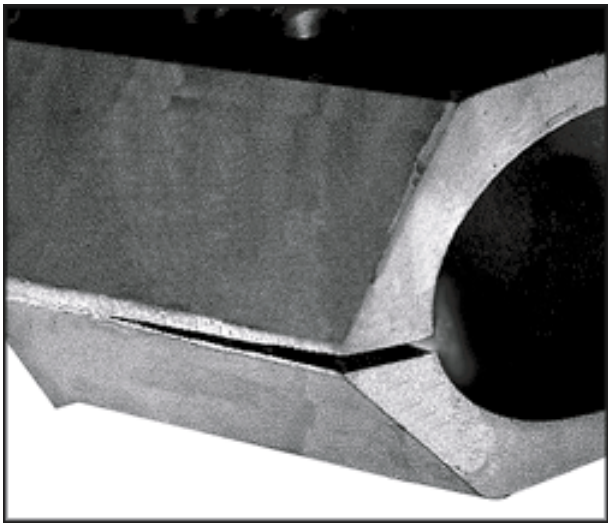
Part total time-7,336 hours.

CESSNA

Cessna; Model 172RG; Cutlass; Main Landing Gear Fitting Failure; ATA 3213

During the first scheduled inspection after the owner purchased the aircraft, the right main landing gear attachment fitting was found cracked.

The fitting (P/N 2241100-1) attaches the main landing gear spring to the axle and wheel assembly. The crack compromised the structure and security of the gear and could lead to separation of the axle and wheel assembly. (Refer to the illustration.)



Before the new owner purchased this aircraft, it had been operated in a salt-air environment over a long period of time. He gave no other reason for this defect.

Part total time-8,288 hours.

Cessna; Model 172R; Skyhawk; Wing Skin Cracks; ATA 5730

While conducting other maintenance, a technician noticed several cracks on the trailing edge of the left wing skin.

The cracks were located on the inboard end of the wing adjacent to four rivets used to join the trailing edge stiffener to the upper and lower skins. The cracks ranged from .5 to 1 inch in length, and one crack penetrated a rivet hole. There was no evidence the trailing edge stiffener had been contacting the chafe buttons of the wing flap which indicated the cracks may be the result of excessive preload or stress imposed during installation. An additional crack, approximately 1 inch long, was found in the same area adjacent to a rivet joining the extreme inboard rib to the upper skin. It appeared this crack was caused by contact with the excessively long shank of the aft wing root fairing screw.

The technician repaired this damage by removing the wing and installing a flush patch with a doubler.

Part total time not reported.

Cessna; Model 177RG; Cardinal; Landing Gear Defect; ATA 3230

After a safe landing, the pilot stated the landing gear pump motor continued to run a long time after the gear selector was placed in the “down” position. Also, the “gear-down” indicator light did not illuminate. A ground observer informed the pilot the gear appeared to be in the “down-and-locked” position prior to the landing.

A technician discovered the right main “gear-down” lock switch was not being actuated because the “down-lock” support bracket was broken. The broken support bracket rotated in the housing and would not allow the gear to lock down. The support bracket lower pin was sheared, and the support bracket displayed signs of excessive heat at the point where it was welded.

Part total time not reported.

Cessna; Model R182; Skylane; Defective Fuel Pressure Gauge; ATA 2844

A technician was investigating a fuel pressure problem and discovered the pressure indicator was defective.

The technician removed the gauge and sent it to an instrument repair facility. The repair facility returned a replacement fuel pressure gauge (U.M.A. P/N 3-311-2). The new gauge came with a nipple fitting (P/N AN816-2D) installed in the inlet pressure port. When he installed the gauge, it produced extremely low pressure readings. He removed the nipple fitting and discovered that when it had been installed, copious amounts of “Teflon thread tape” had been incorrectly applied to the fitting threads. The excess tape covered approximately 75 percent of the fitting outlet to the gauge. Also, small pieces of the tape had broken off and entered the gauge.

The submitter suggested that technicians ensure that “Teflon thread tape” is not applied to the first thread in the threaded portion of the joint.

Part total time not applicable.

Cessna; Model 182S; Skylane; Fuel System Defect; ATA 2821

This aircraft and another like aircraft were purchased “new” by the Washington State Government.

While completing the first 100-hour inspection, a technician discovered a serious safety problem with the fuel system.

The fuel strainer standpipe (P/N 0756036-1) was manufactured with between one and two threads machined into the standpipe for engagement and retention of the fuel settling bowl assembly. When the technician reinstalled the fuel bowl, the threads on the standpipe failed and released the bowl assembly.

The submitter stated the standpipe threads were inadequate to support the weight of the fuel bowl, especially when subjected to operational vibrations. An Airworthiness Inspector from the local FAA Flight Standards District Office (FSDO) inspected the fuel strainer assembly and concurred with the submitter’s findings. After these finding were discussed with Cessna engineering, Cessna designed a new standpipe (P/N 0756036-4) with adequate threads for retaining the fuel bowl.

The fuel strainer assembly is located on the firewall above an engine exhaust pipe and creates a great potential for a fire, as well as possible engine failure due to fuel starvation.

The submitter recommended that all operators of like aircraft inspect and replace, as necessary, the fuel strainer assembly standpipe in accordance with the findings of this report.

Part total time-100 hours.

Cessna; Models 190 and 195; Defective Aileron Hinge Brackets; ATA 2710

During a scheduled inspection, a technician discovered the inboard aileron hinge bracket was broken.

The inboard aileron hinge brackets (P/N 0322709 and P/N 0322709-1) are constructed of magnesium, and magnesium is highly susceptible to the effects of corrosion. This aileron hinge bracket was cracked all the way across the bearing boss. The aileron was in danger of separation from the aircraft. (Refer to the illustration.)

The FAA Service Difficulty Program data base contains nine additional reports of similar defects. Also, several aircraft accidents have been attributed to aileron hinge bracket(s) failure.

Supplemental Type Certificate (STC) SA00871WI is available and offers a new aileron hinge bracket that is made of aluminum. The new parts included in the STC kit are purported to be stronger and more corrosion resistant than the original equipment hinge brackets. Even though the magnesium aileron hinge brackets may appear to be in good condition, their airworthiness cannot be determined until they are cleaned and the paint is removed.

Part total time not reported.

Cessna; Model T207A; Stationair; Main Landing Gear Tire Failure; ATA 3244

After a landing incident, the pilot stated the right main gear tire failed during landing. The aircraft departed the right side of the runway and sustained minor damage.

The technician discovered the tire (Goodyear 800X6) still had tread, the brake system functioned properly, and the wheel turned freely on the axle. However, there was a “flat spot” on the tire where the failure occurred. This indicates the wheel brake was applied when the tire contacted the runway.

It may seem obvious and a bit redundant, but the submitter recommended pilots keep there feet off the brakes until the aircraft is on the runway.

Part total time not reported.

Cessna; Model T210N; Centurion; Horizontal Stabilizer Bracket Discrepancy; ATA 5551

An air carrier operator provided this report after it was reviewed and verified by the local FAA Flight Standards District Office.

During a scheduled inspection, a technician discovered a horizontal stabilizer attachment bracket was severely cracked. He inspected another like aircraft and found a similar defect.

The left aft horizontal stabilizer attachment bracket (P/N 1232623-1) cracks rendered the structural security of the stabilizer questionable. In researching this discrepancy, the technician learned the manufacturer issued Service Information Letter (SIL) SE84-17 which deals with this subject. Also, SIL SE84-17 authorized the installation of an improved attachment bracket (P/N 1232624-1) and recommended inspections at 100-hour intervals.

The submitter recommended that all owners, operators, and maintenance technicians comply with SIL SE84-17 as soon as possible.

Part total time-2,882 hours.

Cessna; Model 210D; Centurion; Nose Landing Gear Failure; ATA 5280

During a landing approach, the pilot placed the landing gear selector in the "down" position with no corresponding action from the nose gear. All attempts to extend the nose gear failed, and he landed the aircraft without the aid of the nose gear.

While recovering the aircraft from the runway, a technician discovered the roller on the spring-loaded mechanical linkage for the nose gear doors had moved forward and locked itself under the nose gear fork. Also, he noticed that an extra link had been added to the door linkage. Since the extra link was attached with only one bolt, the roller lowered and contacted the nose gear fork early in the retraction cycle. He speculated the extra link caused the link and roller to move forward where they became locked, wedged, or jammed under the nose gear fork during the gear retraction cycle.

The text of the submitter's report indicated the nose gear doors had been modified in accordance with a Supplemental Type Certificate (STC). However, he did not identify the STC by number or description. He did call into question the "mental capacity" of the person who accomplished this modification!

Part total time not reported.

Cessna; Model 402C; Businessliner; Landing Gear Defect; ATA 3211

While completing a scheduled inspection, a technician discovered a crack on the right main landing gear.

The crack was located on the right main gear forward pivot support fitting (P/N 5122720-2). The technician checked the landing gear rigging and found it was within limits.

The submitter believes age and the high number of operating hours caused the crack. Also, it is possible that hard landings contributed to this failure.

The manufacturer issued a more structurally substantial main gear support fitting that is used on later model aircraft and can be retrofitted to older aircraft. Older aircraft and high-time aircraft require extra attention to maintain them in an airworthy condition.

Part total time-14,226 hours.

LAKE

Lake; Model LA-250; Turbo Seafury; Engine Oil System Defect; ATA 8550

This aircraft uses a Textron Lycoming Model TIO-540-AA1AD engine.

While complying with the manufacturer's service information, a technician discovered a defect in the oil pressure system.

Textron Lycoming Service Bulletin (SB) 518-C gives instructions for ensuring the airworthiness of the "Vernatherm" engine oil bypass valve (P/N 53E19600). Specifically, SB 518-C lists procedures to check the "Vernatherm" oil bypass valve nut for proper tightness. The oil bypass valve has been the subject of much publicity generated by failures in recent years.

In this case, the oil bypass valve nut was not only loose, it was missing. After a thorough search, the technician found the nut in the inboard end of the right side oil cooler hose. (This aircraft incorporates two oil coolers.)

Part total time-616 hours.

PILATUS

Pilatus; Model PC-12-45; Cockpit Fuel Odor; ATA 2822

After returning from a flight, the crew reported a strong odor of fuel in the cockpit.

The technician found a "puddle" of fuel in the engine cowling. He traced the fuel source to a fitting (adapter) installed in the low-pressure engine-driven fuel pump. It appeared fuel seeped from the junction of the fitting "hex" and the beginning of the threads. The fitting (P/N 528.20.09.109) is a modified stainless steel fitting (P/N AN-815-10). He removed the defective part and sent it to the manufacturer for evaluation.

The submitter could not determine if the fitting was cracked or possibly leaking past the threads. He cautioned all other operators of like aircraft to inspect the fuel pump fitting thoroughly on a regular schedule for any sign of fuel leakage.

Part total time-1,100 hours.

PIPER

Piper; Model PA 18-150; Super Cub; Engine Cowling Damage; ATA 7110

This aircraft was modified by installing a Cub Crafters 180 HP engine conversion kit. The conversion kit provides strength for the cowling from built-in metal supports located at various points around the cowling. The clearance at the front of the engine between the ring gear and the cowling nosepiece is very minimal. The least clearance is between an AN-4 bolt and nut installed on the ring gear at the appropriate "clock angle" and the cowling nosepiece.

When this installation was accomplished it was necessary to “field balance” the propeller using a Chadwick machine. During this process, the technician removed the cowling. After this process, he installed the cowling and attempted an engine run. When the engine started, movement of the engine due to torque caused the ring gear installation to contact the cowling nosepiece. The resulting damage to the cowling and engine was catastrophic.

The submitter stated, “There is not clearance for the bolt nut combination while the engine is running.”

Part total time not applicable.

Piper; Model PA 28-161; Warrior; Main Landing Gear Defect; ATA 3213

While performing other maintenance, a technician discovered a crack in the left main landing gear strut.

A dye-penetrant inspection of the area confirmed the strut (P/N 65319-004) was cracked. The crack was located at the radius of the upper strut housing attachment ears.

The submitter reported finding two other like aircraft with very similar cracks. All of the submitter’s fleet are used in a training environment and are subjected to “untold thousands” of takeoffs and landings. The FAA Service Difficulty Program data base contains nine additional reports on both PA 28-151 and PA 28-161 models.

Part total time-7,841 hours.

Piper; Model PA 28-180; Cherokee; Electrical System Alteration; ATA 2421

The owner brought his newly acquired aircraft to a repair facility and reported observing an electrical system overvoltage condition.

While investigating, a technician discovered the voltage regulator had been removed from the system. The original alternator installation requires a voltage regulator and an overvoltage relay. He speculated someone replaced the original alternator with one incorporating an internal voltage regulator and removed the voltage regulator and overvoltage relay. Subsequently, when the alternator was replaced with a new original alternator, which did not have the internal voltage regulator and overvoltage relay, the installer failed to reinstall these components.

The present owner stated the previous owner performed much of his own maintenance and suggested this mistake may have occurred at that time. He recommended that trained, qualified, and certificated maintenance personnel perform all maintenance.

Part total time not reported.

Piper; Model PA 28-201; Arrow; Defective Engine Induction System; ATA 7160

During a 100-hour inspection, the technician noticed the alternate air door hinge was bent.

Due to the condition of the engine induction air system adapter assembly (P/N 99047-000), unfiltered air was drawn into the engine intake system. The submitter did not give the cause of this damage.

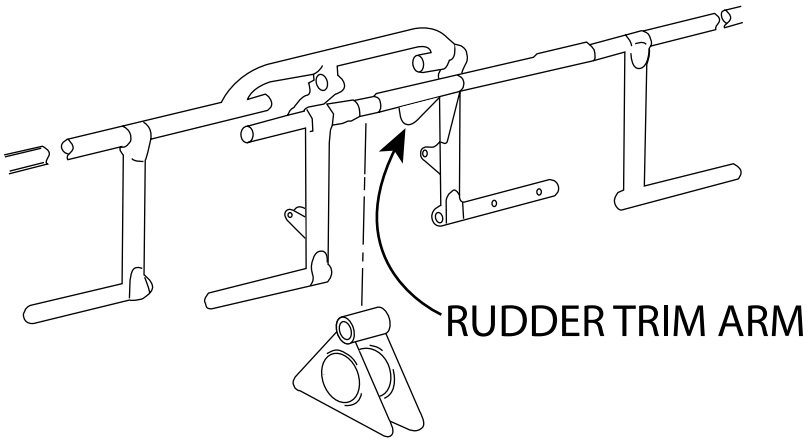
The submitter recommended that the manufacturer modify this installation by increasing the size of the hinge support and using more and larger rivets for attachment.

Part total time-99 hours.

Piper; Model PA 28-236; Dakota; Rudder Control System Failure; ATA 2720

During an annual inspection, a technician discovered the rudder trim arm was broken.

The rudder trim arm (P/N 66661-000) separated from the rudder bar and displayed excessive wear and scoring at the pivot bearing points. (Refer to the illustration.) The submitter attributed the scoring and wear on the bearing points to a lack of lubrication. He suspects the main cause of the damage was movement of the rudder trim control with the aircraft stationary on a hard surface.



The submitter suggested placing the rudder trim in a "neutral" position when taxiing the aircraft to allow free movement of the nose steering mechanism.

Part total time-3,524 hours.

Piper; Model PA 31-350; Chieftain; Landing Gear Retraction Problem; ATA 3230

After returning from a flight, the pilot stated he experienced a problem retracting the landing gear after takeoff. He immediately placed the gear in the "down" position and landed the aircraft safely.

A technician discovered the main landing gear lock rod fork (P/N 41789-00) bolt was broken (sheared) in the shank area. He suspected the bolt failed due to excessive wear and recommended more frequent periodic inspections.

Failure of the gear lock rod fork bolt at the wrong time could prevent the landing gear from locking in the "down" position.

Part total time not reported.

Piper; Model PA 34-200T; Seneca; Magneto Failure; ATA 7414

While performing an engine operational test, the technician discovered the right engine would not operate on the left magneto.

After securing the aircraft, the technician removed the magneto (Bendix P/N 10-79020-119) for further inspection. He opened the magneto case and discovered the distributor gear was cracked, and the impulse coupling was inoperative.

The submitter suggested that technicians pay close attention to "even minor RPM drops," and take appropriate action during magneto operational tests.

Part time since overhaul-1,161 hours.

Piper; Model PA 34-200T; Seneca; Electrical System Failure; ATA 2400

During an engine operational test, the alternators suddenly dropped offline.

The technician discovered the electrical system master switch, located on the cockpit left side panel, was defective. He removed and disassembled the master switch and found the plastic tab that couples the two halves of the switch together was broken. When the coupling tab failed, the alternators dropped offline.

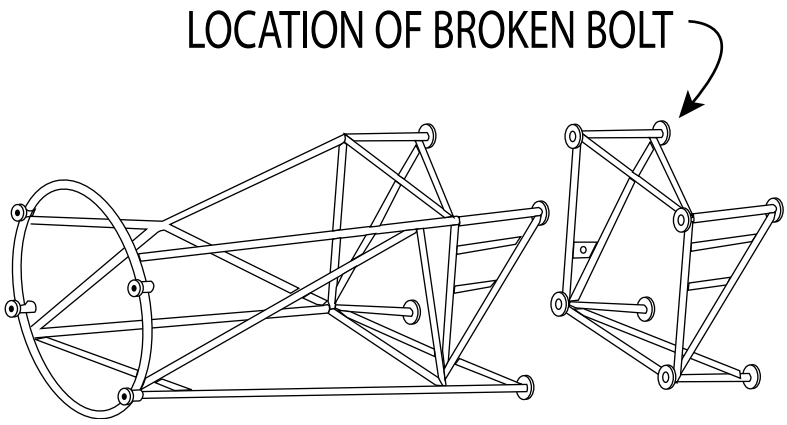
The submitter speculated the plastic tab failed due to age and exposure to extreme temperature variations. He recommended the manufacturer consider using a better switch for this installation.

Part total time not reported.

Piper; Model PA 42-720; Cheyenne; Engine Mount Bolt Failure; ATA 7120

While conducting a scheduled inspection, the technician discovered an engine mount bolt was broken.

The top right engine mount bolt (P/N 553-344) was broken at the firewall. (Refer to the illustration.) The mount bolts are due a time change at 7,500 hours. They should be replaced during engine overhauls or whenever they become loose or defective. These bolts had not attained 7,500 hours of operation, and the submitter did not give the last engine overhaul time.



Considering the critical nature of these bolts, they should be given close attention during inspections and maintenance.

Part total time-4,455 hours.

Piper; Model PA 44-180; Seminole; Engine Induction System Structural Defects; ATA 7160

During a 100-hour inspection, a technician discovered that both engine carburetor heat boxes (P/N 86245-834) were severely cracked.

The right engine airbox was cracked at the “hot air” inlet where the tube is welded to the box. The crack extended approximately half way around the tube. The left engine airbox was cracked at the “cold air” inlet and extended almost all the way around the tube. It was in imminent danger of complete separation from the airbox.

The submitter speculated the damage was the result of “poor design” and “weak welds” at the “cold” and “hot” inlet tubes. He stated, “This is not the first occurrence of this problem on this aircraft or two others this company operates. The new airboxes seldom last more than a few hundred hours before cracks are detected.”

The FAA Service Difficulty Program data base contains five additional reports of failure of this part number airbox, and one of those was installed on a Cessna Model 180 aircraft. The submitter suggested that the manufacturer consider design changes to make a more reliable and stronger airbox.

Part total times-324 hours right and 199 hours left.

UNIVAIR

Univair; Model 415-C; Ercoupe; Defective Nose Wheel Steering; ATA 3251

When the aircraft was repositioned after a flight, the nose gear steering system failed.

A technician discovered the steering rod (P/N 415-52035) was severely bent. Also, the nose gear steering joint ball (P/N 415-34074-2) that attaches the nose gear to the steering rod was broken.

The submitter stated this is a common occurrence that renders the nose steering system inoperative. A manufacturer-revised steering rod (P/N 415-52035A) is available. The revised steering rod is more structurally substantial.

Part total time-1,950 hours.

AGRICULTURAL AIRCRAFT

AIR TRACTOR

Air Tractor; Model AT-602; Unusual Vibration; ATA 6111

After returning from a flight, the pilot reported experiencing an unusual vibration. He stated the vibration seemed to come from forward of the firewall.

A technician investigated and found the inner and outer propeller blade retention clamp assembly (P/N 838-119) bolts were not at the specified torque value.

The submitter determined the loose bolts allowed the propeller blade to vibrate. He recommended checking the propeller blade clamp assembly bolts for proper torque setting during scheduled inspections and maintenance.

Part total time not reported.

HELICOPTERS

BELL SPECIAL NOTICE

Transport Canada issued Transport Canada, Airworthiness Notice B027, Edition 3, which deals with the disposal of helicopters by the Canadian Department of National Defense (DND). These helicopters include CH-136 (COH-58A), CH-118 (UH-1H), and CH-135 (CUH-1N). (*The following article is published as it was received.)*

The purpose of this notice is to inform the aviation public of the lack of a type certification for these rotorcraft and the possible distribution of aircraft components/parts that lack an acceptable release for installation on Canadian aircraft.

The FAA Suspected Unapproved Parts Office, AVR-20, requested that U.S. helicopter operators be made aware of the possibility that these helicopters or components may be made available for purchase. These helicopters and their components do not meet the requirements for U.S. certification or use in civil aviation.

A copy of the Transport Canada, Airworthiness Notice B027, Edition 3, is available on the Internet at: <http://www.tc.gc.ca/civilaviation/maintenance/aarpc/ans/b027ed3e.doc>

All operators are cautioned that these helicopters and their components are not eligible for U.S. certification, or installation on U.S.-registered aircraft.

BELL

Bell; Model 206B; Jet Ranger; Engine Compartment Corrosion; ATA 5313

While installing a structural repair on the engine deck, a technician discovered severe corrosion.

The corrosion was on and adjacent to the right longeron (P/N 206-031-814-49) running along the right side of the engine pan. It was evident that someone in the past had performed a dye-penetrant inspection in the area but did not clean the dye from the surface after the inspection.

The submitter believes the excessive amount of dye left on the structure caused corrosion on the longeron and surrounding area. Due to the severity of the corrosion damage, he replaced the longeron and gave the surrounding area a corrosion treatment.

Part total time 7,815 hours.

Bell; Model 407; Cross Tube Damage; ATA 3211

During a daily inspection, a technician discovered corrosion damage on the landing gear support cross tubes.

The forward cross tube (P/N 407-050-201-115) displayed pitting corrosion at a strap attachment point. The aft cross tube (P/N 407-050-202-101) had pitting corrosion approximately .25 inch deep that traveled

about half way around the tube diameter. In addition, the aft cross tube had heavy pitting corrosion under the wear pads. Due to the location of each area of corrosion, it was very difficult to detect.

The submitter believes this damage was caused when water and other contaminates were entrapped at the attachment points and wears pads. He recommended removing the cross-tube assembly for a close inspection at frequent periodic intervals.

Part total time 3,690 hours.

EUROCOPTER

Eurocopter; Model 105; Twinjet; Hanger Bearing Crack; ATA 6510

During a scheduled inspection, a technician discovered a tail rotor hanger support bracket was cracked.

The number 1 tail rotor hanger support bracket (P/N 105-21801-100.05) was severely cracked and in danger of complete failure. The submitter gave no cause for the crack; however, he recommended adding the inspection of the hanger support bracket to the 50-hour inspection requirements.

Part total time not reported.

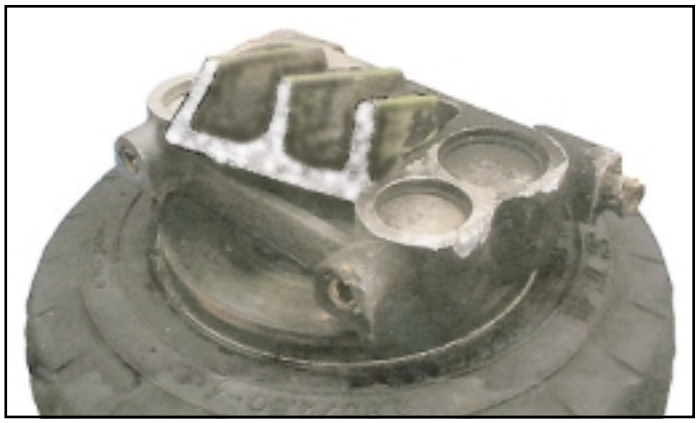
AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

BEDE

Bede; Model BD-5B; Landing Gear Separation; ATA 3213

During a landing, the left main landing gear separated from the aircraft, and the aircraft veered off the runway.

While investigating the accident, an inspector determined the left main gear separated when it contacted the runway. The gear leg failed at the aluminum casting (P/N LG93) that attaches to the wheel assembly. (Refer to the illustration.) Markings on the gear leg casting indicated it was manufactured in 1985. There was no evidence that the part was previously damaged or cracked.



Part total time not reported.

NORTH AMERICAN

North American; Model P-51D; Mustang; Defective Fuel Hose; ATA 2820

While installing a new fuel selector valve, the technician also replaced the associated fuel hoses. During the installation, he discovered the new fuel hose was defective.

The .75-inch diameter hose (P/N MIL-H-6000B) was marked and cut in a symmetrical pattern along the length. The marked/cut places on the hose alternated down the hose length and penetrated the outer layer of the hose.

The submitter stated it appeared the damage was caused during the manufacturing process. He cautioned everyone concerned to conduct a thorough receiving inspection prior to installing parts.

Part total time not applicable.

VIPER AIRCRAFT

Viper Jet; Landing Gear Failure; ATA 3230

The pilot stated the right landing gear collapsed while turning off of the active runway.

An FAA inspector investigated the incident and determined the actuator rod-end (Aurora P/N MM-6) failed. The circumstances of the incident and the available evidence indicated the rod-end failed due to an excessive side load. At the time of the incident, the wind was gusting to 45 knots across the runway.

The submitter suggested that a more structurally substantial rod-end would prevent this type of failure. The aircraft kit manufacturer was contacted and agreed to supply a “heavier” landing gear rod-end with future kits. It would be wise for all current owners to contact the kit manufacturer for retrofit parts.

Part total time-150 hours.

POWERPLANTS AND PROPELLERS

PRATT & WHITNEY

Pratt & Whitney; Model R985; Poor Engine Performance; ATA 8530

This engine was installed in a Weatherly Model 620-B aircraft.

The pilot reported that during a flight, the engine began backfiring and power deteriorated resulting in an off-airport landing.

The technician discovered the number 1 cylinder caused this problem. After removing the cylinder, he found both intake valve springs (P/N’s 28160 and 28161) were broken. Evidence indicated the springs failed due to corrosion (rust) pits adjacent to the area of failure.

The submitter recommended inspecting the entire cylinder assembly, especially the valve springs, for signs of corrosion on a frequent and regular basis.

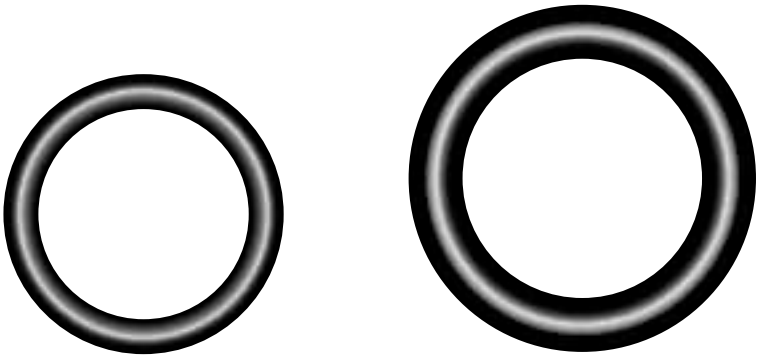
Part total time-6,170 hours.

ACCESSORIES

DEFECTIVE "O" RING SEALS

The FAA issued a Safety Recommendation concerning a defective batch or lot of "O" ring seals. Mr. William D. Shinn, a General Aviation Airworthiness Inspector with the FAA Flight Standards District Office located in Renton, Washington, initiated the Safety Recommendation after his investigation of the defective "O" rings. *(This article is published as it was received.)*

A repair station resealed the fuel selector valve (P/N 0311070-1) on a Cessna, Model 180. The owner picked up the aircraft and while taxiing for takeoff the engine failed. All attempts to restart the engine were futile and maintenance personnel brought the aircraft back to the hangar and investigated the problem. They found the engine suffered from fuel starvation and, investigating further, found fuel was obstructed at the fuel selector valve. The selector valve was removed and disassembled revealing the "O" ring seals were swollen or enlarged twice their original size. (Refer to the illustration.)



The marking on the "O" ring packaging is as follows:

P/N: MS29513-112
Manufacturer: Valtec (Parker)
Lot Number: 60002401
Package Date: 06/01
Cure Date: 1Q01
Shelf Life: 60 Qtrs

A fuel soak test was conducted including "O" rings from Lot Number 60002401 and a different Lot. All of the "O" rings from Lot 60002401 enlarged when exposed to fuel (100LL Avgas) for only a short time. "O" rings from the different Lot did not deform under the same test conditions.

The "O" ring seal manufacturer was contacted and investigated these findings. They determined that Lot Number 60002401 was made from Ethylene Propylene material instead of Nitrile due to a mistake by their material supplier. The Ethylene Propylene material was confined to Lot Number 60002401 and the manufacturer stated this material was unsuited for aircraft fuel system applications.

In the Safety Recommendation, Mr. Shinn recommended "the manufacturer, Parker, and the distributor Valtec, to immediately quarantine any material in the previously mentioned lot number and recall any O-rings from their stock. This action should continue to follow the 'chain' all the way to the end user."

AIR NOTES

STRUCTURAL DAMAGE OF OLDER METAL AIRCRAFT OR ATTACK OF THE CORROSION VILLAIN

Recently, we received a report of severe structural corrosion on a North American, Model AT-6, Texan. Although this report was not unusual, it is a reminder that corrosion is an ever-present villain, which consumes metal products.

Many aircraft have areas where access is either limited or requires extensive disassembly. It seems the corrosion villain lurks about in the inaccessible bowels of aircraft more than the places where it is easily seen (and dealt with). It could be this is because very little, if any, attention is given to these areas for long periods of time.

The corrosion villain prospers on even small amounts of moisture, soap residue, spilled drinks, bird or animal droppings, sweat, chemicals, and other contaminates that find their way into the dark recesses of the aircraft. The corrosion villain is a fact of nature that we have only learned to slow down. Corrosion is an unstoppable process of nature that dictates materials revert to the natural state of the raw material, from which they are made. **(THIS IS MY LAW, I MADE IT UP, AND IT IS MINE!)**

The corrosion villain can even mount an internal attack by forming from inside a piece of metal. This usually occurs when a "flaw" or inclusion of foreign material is captured inside the metal when it is manufactured and forms intergranular corrosion. Intergranular corrosion usually begins by traveling along the grain lines of the metal causing them to swell and separate resulting in "blistering" and eruption of the surface. The progress of the corrosion villain's mission is affected by the environmental conditions the metal is exposed to (e.g., temperature, humidity, chemical content of the atmosphere, pressure, and stress). Some of these factors we can control, some we can control partially, and others we cannot control.

We have come a long way in slowing the progress of the corrosion villain in recent years, and even more advancement is possible in the future. Our mission (and we better be ready to accept it) is to be ever vigilant and relentless in the quest to find the corrosion villain, treat him to things he does not like,

or give up the fight and replace the aircraft part. In all cases, we must maintain the structural integrity of the entire aircraft. Look for corrosion evidence, treat the metal if possible, and replace the part when structurally necessary, but remember that corrosion will always be with us.

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In the past, we furnished the GPO subscription form in this publication. The older issues which contain the subscription form, may not have current pricing information. Since GPO controls price increases, contact GPO for current subscription information.

ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

One of the recent improvements to the AFS-600 Internet web site is the inclusion of FAA Form 8010-4, Malfunction or Defect Report. This web site is still under construction and further changes will be made; however, the site is now active, usable, and contains a great deal of information.

Various electronic versions of this form have been used in the past; however, this new electronic version is more user friendly and replaces all other versions. You can complete the form online and submit the information electronically. The form is used for all aircraft except certificated air carriers who are provided a different electronic form. The Internet address is:

http://av-info.faa.gov/isdr/

When the page opens, select “M or D Submission Form” and, when complete, use the “Add Service Difficulty Report” button at the top left to send the form. Many of you have inquired about this service. It is now available, and we encourage everyone to use this format when submitting aviation, service-related information.

SERVICE DIFFICULTY REPORTING PROGRAM

The objective of the Service Difficulty Reporting (SDR) Program is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products fleet wide.

The SDR program is an exchange of information and a method of communication between the FAA and the aviation community concerning inservice problems.

A report is filed whenever a system, component, or part of an aircraft, powerplant, propeller, or appliance fails to function in a normal or usual manner. In addition, if a system, component, or part of an aircraft, powerplant, propeller, or appliance has a flaw or imperfection which impairs, or which may impair its future function, it is considered defective and should be reported under the program.

These reports are known by a variety of names: Service Difficulty Reports (SDR), Malfunction and Defect Reports (M and D) and Maintenance Difficulty Reports (MDR).

The consolidation, collation and analysis of the data, and the rapid dissemination of trends, problems and alert information to the appropriate segments of the aviation community and FAA effectively and economically provides a method to ensure future aviation safety.

The FAA analyzes SDR data for safety implications and reviews the data to identify possible trends that may not be apparent regionally or to individual operators. As a result of this review, the FAA may disseminate safety information to a particular section of the aviation community. The FAA also may adopt new regulations or issue airworthiness directives (AD's) to address a specific problem.

The primary source of SDR's are certificate holders operating under Parts 121, 125, 135, 145 of the Federal Aviation Regulations, and the general aviation community which voluntarily submit records. FAA Aviation Safety Inspectors may also report service difficulty information when they conduct routine aircraft and maintenance surveillance as well as accident and incident investigations.

The SDR database contains records dating back to 1974. Reports may be submitted on the Internet through an active data entry form or on hard copy. The electronic data entry form is in the AFS-600 Aviation Information web site under the heading SDR Main Menu. The URL is: <http://av-info.faa.gov>

A public search/query tool is also available on this same web site. This tool has provisions for printing reports or downloading data.

At the current time we are receiving approximately 45,000 records per year.

Point of contact is:
Tom Marcotte
Service Difficulty Program Manager
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125

Telephone: (405) 954-6500
9-AMC-SDR-ProgMgr@mmacmail.jccbi.gov

ADDRESS CHANGES

In the past, the Designee Standardization Branch (AFS-640) maintained the mailing list for this publication. Now, the Government Printing Office (GPO) sells this publication and maintains the mailing list; therefore, please send your address change to: U.S. Government Printing Office, **ATTN: SSOM, ALERT-2G**, 710 N. Capital Street N. W., Washington, DC 20402

You may also send your address change to GPO via FAX at: (202) 512-2168. If you FAX your address change, please address it to the attention of: **SSOM, ALERT-2G**. Whether you mail or FAX your address change, please include a copy of your old address label, and write your new address clearly.

IF YOU WANT TO CONTACT US

We welcome your comments, suggestions, and questions. You may use any of the following means of communication to submit reports concerning aviation-related occurrences.

Editor: Phil Lomax (405) 954-6487
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You can access current and back issues of this publication from the internet at: http://afs600.faa.gov

When the page opens, select "AFS-640" and then "Alerts" from the drop-down menu. The monthly issues of the Alerts are available back to July 1996, with the most recent edition appearing first.

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between April 24, 2002, and May 24, 2002, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. For more information, contact the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The mailing address is:

FAA
Aviation Data Systems Branch, AFS-620
PO Box 25082
Oklahoma City, OK 73125

These reports contain raw data that has not been edited. If you require further detail please contact AFS-620 at the address above.

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

Sorted by Aircraft Make and Model then Engine Make and Model. This Report Derives from Unverified Information Submitted By the Aviation Community without FAA review for Accuracy.

ACFT MAKE	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	DIFF-DATE	T TIME
ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	OPER CTRL NO.	TSO
REMARKS						
	ALLSN		GOVERNOR	MALFUNCTIONED	04/03/2002	12618
	250C20B		252466715H	ENGINE	ERAA078452	
GOVERNOR DROOPING EXCESSIVELY, OUT OF SERVICE LIMITS. INTERNAL BEARINGS FOUND ROUGH / RATCHETY, DRIVESHAFT SPLINES WORN BEYOND LIMITS, DRIVE SLEEVE SPLINES WORN, GOVERNOR WEIGHTS WORN FLAT.						
	ALLSN		BEARING	ROUGH	04/03/2002	11828
	250C20B			ENG GOVERNOR	ERAA078455	
GOVERNOR HITS MAX STOP WITH COLLECTIVE UP. DROOPING AND OVERSPEEDING EARLY. FOUND CAN LEVER OVERSIZED, ECCENTRIC SHAFT UNDERSIZED, SIX INTERNAL BEARINGS FOUND ROUGH/ RATCHETY.						
	GARRTT		IMPELLER	BROKEN	02/28/2002	
	TPE33111U		31071102	COMPRESSOR	CA020422008	
(CAN) CUSTOMER REPORTED LOUD SQUEALING NOISE COMING FROM ENGINE. ENGINE WAS REMOVED. TEARDOWN REVEALED THAT REWORKED IMPELLER HAD A PIECE BROKEN OUT OF ONE VANE.						
	LYC		BUSHING	FAILED	04/23/2002	250
	IO720*		SL738190	COUNTER WEIGHT	04230201	250
COUNTER WEIGHT BUSHINGS P/N SL73810 HAVE FAILED AT 2 TO 250 HOURS. IT APPEARS THAT THE MATERIAL MAY BE TOO SOFT. BUSHINGS WERE REMOVED BY OPERATOR AND SENT BACK FOR EVALUATION.						
	LYC		OIL FILTER	MISMANUFACTURE	04/02/2002	
	O360A4M		CP48110	ENGINE	2002FA0000540	
DURING A PREINSTALLATION INSPECTION ON A MFG. SPIN ON OIL FILTER THE CENTER ATTACH STUD WAS FOUND TO BE ONLY FINGER TIGHT. THIS DEFECT COULD HAVE CAUSED LOSS OF ENGINE OIL AND POSSIBLY ENGINE FAILURE IF THE DEFECT GOES UNDETECTED.						
	PWA		FILTER	UNAPPROVED	04/18/2002	
	PT6T3B			ENGINE	CA020418003	
(CAN) 2 OIL FILTERS WERE FOUND INSTALLED IN GEARBOX. FILTERS ARE NOT GENUINE, NOT APPROVED AND WERE NEVER RELEASED UNDER THE ENGINE / GEARBOX TYPE DESIGN. THE FILTER SHOWS AN IC NUMBER WHILE IT SHOULD INDICATE THE VENDOR P/N AND THE FILTERING CAPACITY. THE SEATING FLANGE DOES NOT MATCH THE ORIGINAL DESIGN SINCE IT IS BUILD FROM 2 ALUMINUM PIECES THAT ARE SPOT WELDED TOGETHER. PWC HAS PLACED THIS PART IN QUARANTINE FOR 21 DAYS.						
	TMECA		BOLT	BROKEN	04/29/2002	1931
	ARRIEL1D1		9824053225	ENGINE	2002FA0000557	1931
AFTER A MAINT FLIGHT, FOLLOWING THE CLEANING OF THE NR 4 BEARING, THE MAINT TECH FOUND THE OUTSIDE OF THE ENGINE COWLING DELAMINATED. DURING INSPECTION TO DETERMINE THE CAUSE, THE MECHANIC NOTICED THE ENGINE SPLIT LINE BETWEEN MO3 AND MO4 DEVELOPED A BLEED AIR LEAK. UPON EXAMINATION OF THE ATTACHMENT FLANGE BOLTS ONE WAS FOUND TO BE BROKEN IN THE AREA OF THE LEAK. THE BOLT HAD BROKEN FAR ENOUGH INTO THE CASE THAT THE MODULES WHERE REMOVED AND SENT TO TURBOMECA TO ELIMINATE THE POSSIBILITY OF FURTHER DAMAGE. THE ENGINE WAS REASSEMBLED IAW MM CHAPTER 72 AND ALL PROCEDURES WHERE FOLLOWED, QUALITY CONTROL WAS ON HAND AND VERIFIED ALL PROCEDURES WHERE FOLLOWED DURING						
AIRTRC	PWA		BLADE	FAILED	05/01/2002	29
AT502	PT6A34		T102401100A	COMPRESSOR DISK	2002FA0000568	
DURING TAKE OFF THE ENGINE LOST ALL POWER. ENGINE WAS SHIPPED TO CERTIFIED REPAIR STATION. THE PRELIMINARY ANALYSIS IS IN THE ENGINE TURBINE SECTION: THE COMPRESSOR TURBINE DISC P/N 3013411, S/N 2P609, HAD SEVERAL BLADES (BLADES 9,11 THRU 19, 21, 44, AND 45) FRACTURED AT THERE ROOTS. UNDER UNAIDED VISUAL AND MACROSCOPIC INSPECTION THE ROUTE FRACTURE SURFACES DISPLAYED COURSE GRANULAR FEATURES. THE BLADE P/N (T-102401-100A) BEING PREFIXED WITH A “T” DENOTES THE BLADES TO BE NON-PWC MANUFACTURED UNITS.THESE BLADES WERE CHANGED AT LAST HSI ON 6 FEBRUARY 2002 AND HAD ONLY 28.7 HOURS TO THIS FAILURE.						
AIRTRC	PWA		FUEL FILTER	LEAKING	04/21/2002	
AT802	PT6A6		500991	FIREWALL	CA020430001	
(CAN) WHILE DE-INHIBITING ENGINE FCU, FUEL FOUND LEAKING FROM FIREWALL MOUNTED FUEL FILTER AT BASE OF CNISTER O-RING.FILTER CANISTER REMOVED, NEW FILTER ELEMENT AND O-RING WERE INSTALLED, FILTER ASSY TORQUED IAW AT-802 MM AND PRESSURE TESTED SERVICEABLE. A/C GROUND RUN FOR APPROX 2 HRS OVER ONE WEEK PERIOD. DURING TEST FLT PILOT NOTED FUEL SMELL IN COCKPIT. A/C RETURNED TO BASE. FUEL PRESSURE CHECK ACCOMPLISHED AND FUEL FOUND LEAKING FROM CANISTER TO BASE O-RING LOCATION. FILTER CANISTER SECURING BOLT LOCK WIRE REMOVED AND TORQUE CHECK WAS COMPLETED.						
AMD	GARRTT		LINE	CHAFED	04/12/2002	
FALCON10	TFE731*		F10A751108	HYD SYSTEM	2002FA0000580	
NR 1 HYDRAULIC SYSTEM LOST ALL FLUID ON FLIGHT. DISCOVERED HYDRAULIC LINE CHAFFED THROUGH. LINE HAD CHAFFED AGAINST ANOTHER LINE (PN F10A751127) IN AFT BAY. INSPECT SYSTEM COMPONENTS FOR POTENTIAL						
AMTR			BELT	BROKEN	04/08/2002	208
ROTORWAYEXEC			E181150	TAIL ROTOR	2002FA0000628	
CENTER TAIL ROTOR BELT FAILED RESULTING IN NO TAIL ROTOR CONTROL. BELT LIKELY FAILED DUE TO IMPROPER BELT ROUTING THROUGH TAILBOOM FROM ONE IDLER PULLEY TO NEXT IDLER PULLEY.						
AVIAT	LYC		BAFFLE	MISSING	04/19/2002	588
A1B	O360A1D			EXHAUST DUCT	2002FA0000578	
REMOVED MUFFLER/ EXHAUST DUCT ASSEMBLY INTERNAL BAFFLES MISSING, AND NR 4 CYLINDER LOWER SLIP JOINT LEAKING.						
BBAVIA			SPAR	CRACKED	04/30/2002	4379
7AC			S147	LT WING	2002FA0000649	
LEFT WING REAR SPAR COMPRESSION CRACK AT STRUT ATTACH POINT BETWEEN DOUBLER ON UPPER SURFACE.						
BBAVIA	CONT		SPAR	CRACKED	04/22/2002	
7EC	C90*			RIGHT WING	2002FA0000637	
IN COMPLYING WITH AD, FOUND CRACK AT BUTT OF MAIN SPAR JUST UNDER ATTACH FITTING TO FUSELAGE ON RIGHT WING TRAVELING SEVERAL INCHES LONGITUDINALLY. SEVERAL RIB NAILS LOOSE ON BOTH WINGS. AIRCRAFT HANGARED-CAUSE UNKNOWN, (HOURS ON WINGS 5000 TO 6000), REPAIR OF WINGS REQUIRED.						

BBAVIA CONT SPAR CRACKED 04/24/2002 5500
7EC C9012F 5146 RT WING 474 500
C/W AD 00-25-02R1 FOUND CRACK AT BUTT OF MAIN SPAR JUST UNDER ATTACH FITTING TO FUSELAGE ON R/H WING TRAVELING SEVERAL INCHES LONGITUDINALLY AND PARALLEL- SEVERAL RIB NAILS LOOSE ON BOTH WINGS- AIRCRAFT HANGARED FOR SEVERAL YEARS (20)VERY LOW USEAGE- CAUSE UNKOWN- REPAIR OF WINGS REQUIRED.
BBAVIA LYC SPAR CRACKED 03/13/2002 1725
7GC O290* RT WING 2002FA0000528
WHIN WAS INSPECTED PRIOR TO RECOVER. THIS INSPECTION SHOWED NO CRACKS. WING WAS RECOVERED AND STORED PRIOR TO SINTALLATION. THE WIND BLEW WING AND STORAGE RACK OVER. THE RACK FELL ONTO THE WING. AN INSPECTION WAS DONE. INSPECTION FOUND TWO CRACKS AT THE BUTT END OF THE SPAR, ONE CRACK WAS UNDER THE WING ATTACH FITTING AND ONE CRACK JUST BELOW THE FIRST. BOTH CRACKS IN LINE WITH THE BOLT HOLES AS SHOW IN SL406, THE SPAR WAS CRACKED BADLY ENOUGH THAT A .006 FEELER GAUGE COULD BE PUSHED IN ABOUT 1 INCH. THE SPAR MUST BE REPLACED.
BBAVIA LYC AXLE SHEARED 03/11/2002
7GCBC O320A2B 22041 MLG CA020408006
(CAN) DURING THE TAKEOFF RUN ON ICE THE AIRCRAFT CROSSED OVER SOME SMALL SNOWMOBILE TRACKS. WHEN THE AIRCRAFT BECAME AIRBORNE THE RIGHT SKI SEPARATED. THE SKI, STILL ATTACHED BY THE SAFETY WIRE, FLAILED AROUND CAUSING SUBSTANTIAL DAMAGE TOTHE BELLY AND RT STRUTS. EVENTUALLY THE FORWARD SAFETY WIRE FAILED AND THEN SWUNG AROUND TO BECOME LODGED BEHIND THE LTSKI, BUT NOT BEFORE STRIKING THE REAR FUSELAGE AND DAMAGING THE FABRIC AND REAR BULKHEADS. SUBSTANTIAL AIRCRAFT DAMAGE UPON LANDING AND RESULTING GROUND LOOP.
BBAVIA LYC FUEL TANK CRACKED 05/08/2002 390
8KCAB AEIO360H1A 715371 FUSELAGE OG5R092N
DURING ANNUAL INSPECTION A FUEL LEAK WAS NOTED ON THE BOTTOM OF THE LEFT WING BENEATH THE FUEL TANK. UPON MORE DETAILEDINSPECTION THE INTERNAL BAFFLING OF THE FUEL TANK WAS FOUND TO BE SEPERATED AND THE TANK TO BE LEAKING FROM ONE OF THE BAFFLE ATTACH WELDS. RESEARCH OF THIS AIRCRAFTS HISTORY REVEALED THAT THIS HAS HAPPENED 3 TIMES PRIOR. THE ORIGINAL TANKWAS REPLACED AT 1728.1 TOTAL TIME, THE NEXT 3 LASTED 396.0, 647.6 AND 390.0 CONCURRENTLY. WE FEEL THAT THE DESIGN OF THE TANK CONTRBUTES TO ITS FAILURES. THE INTERNAL BAFFLE IS WELDED IN THE TANK DIRECTLY UNDER THE CENTER MOUNTING STRAP FOR THE TANK CAUSING A PRELOAD UPON INSTALLATION. DURING USE FOR ACROBATIC
BEECH KEELBEAM CRACKED 03/29/2002
1900D 11498002412 FUSELAGE 2002FA0000549
SMALL CRACK FOUND ON RIGHT HAND FORWARD OUTBOARD WHEEL WELL KEEL AT UPPER GEAR FENDER SUPPORT ANGLE (SUPPORT ANGLE IS PART OF KEEL CASTING).
BEECH PWA BEECH BEARING CORRODED 02/25/2002 13115
1900D PT6A67D 1185210588 MS276404 BALL BEARING CA020225001 13115
(CAN) R/H AILERON FOUND WITH EXSCESSIVE UP AND DOWN PLAY.PLAY WAS CAUSED DUE TO R/H AILERON TERMINAL BELLCRANK BEARING WORN.BALL INSIDE BEARING WAS FOUND HEAVILY CORRODED AND OUT OF SHAPE.
BEECH PWA ACTUATOR INOPERATIVE 02/27/2002
1900D PT6A67D 11238002223 MLG CA020227005
(CAN) DURING NORMAL APPRAOCH, CREW EXTENDED LANDING GEAR BUT DID NOT GET A NOSE GREEN. GEAR WAS CYCLED WITHOUT CHANGE. EMERGENCY PROCEDURES PROVIDED FOR MANUAL EXTENSION BUT STILL WITHOUT GREEN. DUE TO SYSTEM WIRING, THE GEAR WAS ASSERTAINED DOWN DUE TO THE ABSCENCE OF A RED HANDLE LIGHT WHICH FUNCTIONED NORMALLY. THE GREEN AND RED LIGHTS FUNCTION OFF A DOUBLE POLE SWITCH PROVIDING SOME ASSURANCE OF ACTUAL GEAR POSITION DURING MALFUNCTIONS. DURING TROUBLESHOOTING, THE GEAR FUNCTIONED NORMALLY WITH ALL LIGHTS OPERATING PROPERLY, HOWEVER, THE NOSE GEAR ACTUATOR WAS REPLACED FOR PRECAUTIONARY REASONS AND THE AIRCRAFT RELEASED AFTER NUMEROUS GEAR CYCLES.
BEECH PWA RAYTHN RELAY CORRODED 03/21/2002 13729
1900D PT6A67D B1900D 77GB408R4A18 CONTACT CA020419002 13729
(CAN) DURING PREFLIGHT CHECK PILOT PULLED THE L/H FIRE HANDLE TO CHECK THE SHUTTOFF VALVE OPERATION, WHEN HE PUSH BACK THE HANDLE THE VALVE STAYED CLOSED. SEVERAL TRIES WERE NECESSARY TO OPEN THE VALVE. DURING TROUBLESHOOTING, THE PROBLEM DID NOT REOCCUR BUT AFTER INVESTIGATION WE FOUND THAT THE RELAY CONTACT AND THE WIRE TERMINAL WAS CORRODED AND CONTACT A3 WAS FOUND BARELY ATTACHED.
RELAY, WIRE AND TERMINAL WAS REPLACED. (RELAYA236K1)
BEECH PWA SPACER DAMAGED 03/12/2002 11300
200BEECH PT6A41 3018389 COMPRESSOR CA020417004
(CAN) AT ROUTINE ENGINE INSPECTION OF COMPRESSOR FIRST STAGE, FIRST STAGE DISK MADE SCRAPING NOISE AND JAMMED WHEN ROTATED. VISUAL INSPECTION FOUND FIRST STAGE SPACER HEAVILY RUBBED WITH LEADING EDGE METAL PIECES CURLED OUTWARD FROM INERTIAL FORCE. ENGINE REMOVED FOR REPAIR.
BEECH PWA BOLT LOOSE 03/13/2002
200BEECH PT6A42 VARIOUS RUDDER CONTROL AUS20020325 3775
(AUS) FORWARD RUDDER PUSH-PULL TUBE FORWARD BELLCRANK BOLTS LOOSE.
BEECH LYC CURRENT FAILED 03/28/2002
76 O360A1G6D DC POWER AUS20020303
(AUS) PILOT EXPERIENCED COMPLETE LOSS OF ELECTRICAL POWER WHEN THE UNDERCARRIAGE WAS RETRACTED AFTER TAKE-OFF. INVESTIGATION FOUND THE BUS 1 AND 2 CURRENT LIMITERS BLOWN. FURTHER INVESTIGATION FOUND THE ALTERNATOR BLOCKING DIODE HAD AN UNSERVICEABLEINSULATOR THAT WAS SHORTING ALTERNATOR OUTPUTS TO EARTH.
BEECH PWA FRAME CRACKED 03/25/2002 15724
A100 PT6A28 5042002857 FUSELAGE CA020326012 15724
(CAN) DURING AIRFRAME INSPECTION SMOKING RIVETS WHERE DETECTED ON THE AIRCRAFT FUSELAGE. INVESTIGATION REVEALED THAT THE FUSELAGE FRAME AT FLIGHT STATION 207.00 WAS CRACKED. THE FUSELAGE FRAME IS BEING REPLACED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
BEECH PWA BEECH BUSHING LOOSE 03/25/2002 3246
B200 PT6A60A ACTUATOR 2002FA0000533
DURING A SCHEDULED CORROSION INSPECTION THE RIGHT ELEVATOR WAS REMOVED. UPON REMOVAL THE BUSHING IN THE END OF THE ACTUATOR WAS FOUND TO BE LOOSE ON THE SHAFT. WITH THIS BUSHING NOT INSTALLED THE POSSIBILITY OF TAB FLUTTER OR NOT ALLOWING THE TAB ITS FULL MOVEMENT IS POSSIBLE. MFG SHOULD INSTALL A ROLL PIN TO HOLD THIS BUSHING IN PLACE. A ONE-TIME INSPECTION SHOULD BE DOEN ON THESE ACTUATORS TO MAKE SURE THIS IS IN PLACE AS THIS IS A HARD AREA TO SEE ON A DAILY INSPECTION.
BEECH PWA BELLCRANK MISMANUFACTURE 04/10/2002
C90A PT6A21 ASABOVE AILERON CA020410002
(CAN) DURING INSPECTION THAT REQUIRED REMOVAL IT WAS NOTICED THAT THE HOLE IN THE OUTPUT ARM (AILERON PUSHROD ATTACH POINT) HAD BEEN INCORRECTLY DRILLED TO 5/16 INCH INSTEAD OF 1/4 INCH. THIS ALLOWED LOST MOTION BETWEEN THE PUSHROD AND BELLCRANK. THE BORE OF THE HOLE SHOWED PRIMER EXISTING FROM MANUFACTURE. MANUFACTURER WAS CONTACTED AND WILL BE SHOWN THE DEFECT AND IT WAS HINTED THAT THIS PROBLEM HAD BEEN SEEN BEFORE.

BEECH			SNAP RING	FAILED	04/16/2002	
D50				MLG STRUT	2002FA0000570	

AIRCRAFT WAS PARKED IN HANGAR, NO MAINTENANCE BEING PERFORMED. UPON 1ST INVESTIGATION LT MAIN LANDING GEAR STRUT WAS BOTTOMED. UPON FURTHER INVESTIGATION UPPER STRUT CAP SNAP RING HAD COME LOOSE AND CAP EJECTED THROUGH UPPER WING SKIN CAUSING A 3 INCH HOLE IN UPPER WING SKIN. NO OTHER DAMAGE NOTED ON AIRCRAFT. UPON FURTHER INSPECTION NO SIGN OF COMPONENT FAILURE TO LEFT MAIN

BEECH	PWA		SPAR	CRACKED	04/11/2002
E90	PT6A60A			ELEVATOR	2002FA0000645

END RIB CRACKED SEVERAL PLACES. FORWARD SPAR, INBOARD END CRACKED.

BELL	LYC		FITTING	CRACKED	04/11/2002
205A1	T5313B		2090313441	M/R TRANSMISSION	CA020501002

(CAN) CRACK FOUND AT BOTTOM OF BEAM (FITTING HOUSING) WHERE 5TH MOUNT IS HOUSED, 3/4 INCH LONG. MAINTENANCE MANUAL SPECIFIES NO CRACKS IN THIS AREA.

BELL	ALLSN		NOZZLE	CRACKED	11/19/2001
206B	250C20		6878496	TURBINE SECTION	CA020405023

(CAN) FIRST STAGE NOZZLE FOUND CRACKED BEYOND ACCEPTABLE LIMITS.

BELL	ALLSN	BELL	BULKHEAD	CRACKED	11/14/2001	
206B	250C20B	206B	206030446001F	T/R GEARBOX BAY	CA020405025	

(CAN) CRACK FOUND DURING INSPECTION IN AFT LT TAIL ROTOR GEARBOX MOUNTING AREA.

BELL	ALLSN	MICHDYNAMICS	CASE	RUPTURED	03/05/2002	
206B	250C20B	2223666213		FUEL FILTER	CA020312007	

(CAN) - AFTER START, FUEL FILTER CLOG LIGHT CAME ON. AIRCRAFT SHUT DOWN AND FOUND FUEL LEAK FROM FILTER HEAD & FOUNDBROKEN CASTING. INVESTIGATION FOUND THAT AN INPROPER FUEL VALVE ASSY WAS INSTALLED. THE ASSY DID NOT ALLOW THE SYSTEM TO BLEED OFF IN THE EVENT OF PRESSURE BUILD UP DUE TO EXPANSION OF THE FUEL IN THE SYSTEM WHEN THE AIRCRAFT FUEL VALVE IS IN THE “OFF” POSITION. FUEL EXPANDED WITH THE AIRCRAFT PARKED OUTSIDE, COVERS ON THE ENGINE COWL & CAR HEATER INSTALLED OVERNIGHT. A PROPER FUEL VALVE ASSEMBLY WAS INSTALLED AS PER THE TYPE REQIRED FOR THE “S/N” OF AIRCRAFT. THE FUEL VALVE ASSY INSTALLED HAS A PRESSURE RELIEF VALVE INSTALLED, THE OLD ONE DID NOT.

BELL	ALLSN	BENDIX	TORQUE TUBE	CRACKED	04/10/2002	
206B	250C20B	23065121	206062708007	SHEAR AREA	CA020430008	

(CAN) THE TORQUE TUBE P/N 206-062-708-007 WAS FOUND CRACKED IN THE SHEAR AREA. THE CAUSE OF THE CRACKS WERE DETERMINED TO BE CAUSED BY THE GOVERNOR BECAUSE THE ARM WAS EXTREMELY HARD TO MOVE. NO COMPLAINTS FROM PILOT TO INDICATE A N2 PROBLEM. BOTH PARTS REPLACED.

BELL			CROSSTUBE	FAILED	04/01/2002	2096
212			AB205050400063	MLG	HEEA078542	

DURING PASSENGER LOADING (ENGINES SECURED) AFT CROSSTUBE FAILED ONE INCH OUTBOARD OF RIGHT HAND ATTACHMENT POINT (STRESS MARKS ON TUBE INDICATES FAILURE STARTED AT THE 12 O‘CLOCK POSITION). AIRCRAFT SETTLED TO THE RIGHT RESULTING IN DAMAGE TO RIGHT HAND AFT FLOAT BOARD ASSEMBLY AND TO THE RIGHT HAND SKID TUBE IN THE AREA OF THE FWD SADDLE. REPLACED AFT CROSSTUBE AND RT SKID TUBE.

BELL	PWA		VENT	CLOGGED	03/08/2002
212	PT6T3		209062608001	FUEL PRESSURE	CA020408001

(CAN) FUEL PRESSURE FLUCTUATED, FUEL PRESSURE TRANSMITTER PORT AND VENT FOUND ALMOST CLOGGED BY MUDDY SUBSTANCE.

BELL	PWA	BELL	BEARING	FAILED	03/27/2002	
212	PT6T3B	212040263107	214040118001	CAGE	CA020430011	

(CAN) INFLIGHT ILLUMINATION OF TRANSMISSION OIL PRESSURE LIGHT, CONFIRMED BY VISUAL INDICATION OF LOW OIL PRESSURE INDICATION (40PSI). EMERGENCY PROCEDURES INITIATED, PRESSURE INDICATION WENT TO ZERO AFTER A FURTHER 6 MINS OF FLIGHT. EMERGENCY LANDING CARRIED OUT TO NEARBY SEA VESSEL. TRANSMISSION/DRIVETRAIN SEIZED FOLLOWING ENGINE SHUT DOWN AND APPLICATIONOF ROTOR BRAKE. TEARDOWN INSPECTION OF TRANSMISSION 26-APR-02 AT HELIPRO FACILITY IN LANGLEY BC IDENTIFIED FAILURE OF QUILL ASSY AND QTY.2 LOWER PLANETARY GEAR BEARING WHICH WERE SEIZED.

BELL			AMPLIFIER	INTERMITTENT	04/08/2002
214ST			214074305105	AUTOFLIGHT	HEEA078592

NR 1 ELEVATOR SYSTEM WILL ONLY STAY ON LINE FROM 15 MINUTES TO ONE HOUR 30 MINUTES. CAN RE-ENGAGE SYSTEM AND WILL WORKFOR ABOUT ANOTHER HOUR BEFORE KICKING OFF LINE.

BELL			CONNECTOR	LOOSE	04/08/2002
407				BUSS BAR	HEEA078593

IN CRUISE FLIGHT PILOT SMELLED SOMETHING BURNING. SMELL FROM BAGGAGE COMPARTMENT. MAINTENANCE FOUND LOOSE CONNECTIONS AT STARTER RELAY TO LINE CONTROL RELAY. ARCING OCCURRED AT STARTER RELAY TERMINAL A2 AND AT LINE CONTROL RELAY TERMINALA2 ALSO FOUND BURNED AND MELTED HEAT SHRINK.

BELL			BLADE	DAMAGED	04/04/2002	8855
412			412015300109	MAIN ROTOR	ERAA078458	

INSPECTION DUE TOP SKIN 1/3 DOWN LENGTH OF BLADE FROM ROOT, VOIDED AREA AS MARKED, EDGES OF INBOARD TAB POPPED UP. ESTANE BOOT DAMAGED, LOWER SURFACE GRIP VOID, INBOARD TRIM TAB VOID WITH GLASS DAMAGE, INBOARD ABRASION STRIP TANG VOID UPPER AND LOWER SURFACE. WATER IN BLADES AT SKIN PATCH, FILLER CRACKING AT TABS. WATER IN BLADE 30 TO 40 CELLS. DETERMINED BY X-RAY INSPECTION OF SUSPECT AREA. ACTION TAKEN: REPAIRED AS PER 8130-3 BLK #13.

BELL			BUSHING	MISSING	04/04/2002	13544
412				M/R HEAD	ERAA078462	

BUSHINGS 412-010-121-101 MISSING FROM YOKE RED BLADE, COMPLY WITH 2500 HR INSPECTION. BUSHINGS MISSING, VISUAL INSPECTION APPEARS NORMAL ON YOKE & FITTING. ACTION TAKEN: DISASSEMBLED, CLEANED, INSPECTED, COMPLIED WITH 2500 HR INSPECTION IAW 412 CR&O & 412 M/M, INSTALLED YOKE BUSHINGS, SERVICEABLE LOWER CONE SEAT, SPLINE PLATE, LOWER CONE, NEW DAMPER SETS,ASSEMBLED IAW 412 CR&O.

BELL			TRANSMISSION	MAKING METAL	04/04/2002	8093
412			412040002103	TAIL ROTOR	ERAA078465	

TRANSMISSION IS MAKING METAL. ACCESSORY T/R INPUT QUILL BEARING SET, ROLLERS & RACES MAKING METAL. ACTION TAKEN: CHANGED SUMP CASE, ASSY/ INPUT DRIVE QUILL. C/W 3100 HOUR INSPECTION. REPLACED MAIN INPUT PINION AND ALL BRGS. CLEANED AND FLUSHED ALL OIL PASSAGES.TESTED AND TOUCHED UP PAINT.

BELL	PWA		SLEEVE	WORN	03/20/2002	
412	PT6T3		10544E	FUEL LINE	AUS20020361	920

(AUS) THE FIRE SLEEVE OF FUEL HOSE (PN 10544E) WAS FOUND CHAFFED APPROX 0.005 IN (0.127MM) IN DEPTH THROUGH WALL OF FUEL HEATER.

BELL PWA BLOWER WORN 04/04/2002 11234
412 PT6T3B 209062502101 OIL COOLER ERAA078463
OIL COOLER BLOWER DUE 1500 HR OVERHAUL. WORN INBOARD BUSHING IN CASING ASSY. CRACKED IMPELLER. ACTION TAKEN: C/W PRELIMINARY INSPECTION. NO DEFECTS NOTED. DISASSEMBLED OIL COOLER, CLEANED, STRIPPED PAINT & PRIMER & VISUALLY INSPECT ALL PARTS. FOUND MECHANICAL DAMAGE ON BEARING BUSHING OF CASING ASSY AND SENT TO H&S TOOL FOR REPAIR. CLEANED UP LIGHT CORROSION ON REMAINING PARTS. C/W NDT INSP & FOUND CRACK ON IMPELLAR, PARTS FOUND TO BE IN SERVICEABLE CONDITION. INSTALLED 1EACH NEW BRG IN CASING ASS6Y, 1 EACH NEW BEARING ON SHAFT. PRIMED PARTS & REASSEMBLED OIL COOLER WITH ALL NEW HARDWARE, NEW DECAL & NEW SHAFT O RING. O/H OIL COOLER IAW BHT 412 CR&O9CHAP 79 & BHT-ALL-SPM CHAP 2 .

BELL ALLSN BEARING RACE SPALLED 03/29/2002 727
TH57A 250C18 23071309 TURBINE SECTION HEEA078481
TURBINE WAS REMOVED DUE TO METAL IN OIL. INSPECTION REVEALED SPALLING ON INNER RACE COUPLING BEARING RACE. INSTALLED NEW INNER RACE COUPLING.

BOLKMS ALLSN DIAPHRAGM DEFORMED 04/03/2002 10974
BO105A 250C20B ENG GOVERNOR ERAA078453
NR 1 STARTS HUNTING UP & DOWN AFTER 10-20 MIN. GOVERNOR BLEEDS OFF 200 RPM TOO EARLY. GOVERNOR LEVER, CAM LEVER AND FLY WEIGHT BEARINGS FOUND ROUGH AND DRY. PR DIAPHRAGM FOUND DEFORMED.

BOLKMS HEAD MALFUNCTIONED 04/04/2002 8715
BO105S 10531714 TAIL ROTOR ERAA078456
EXCESSIVE RIGHT PEDAL REQUIRED IN A HOVER. FOUND NO DEFECTS ACTION TAKEN: REMOVED BLADES AND REPLACED WITH BLADES SN 211 & 218 FOR TROUBLESHOOTING PURPOSES. REMOVED STRAP PACK BOLTS FOR INSPECTION OF BUSHINGS. FOUND NO DEFCTS & REINSTALLED BOLTS. STATIC BALANCED. REPAIRED IAW BO105 REM 301, MM CH 33,34,102 & MARVEL MM.

BOLKMS HEAD MALFUNCTIONED 04/04/2002 10028
BO105S 10531714 TAIL ROTOR ERAA078457
HEAVY LEFT PEDAL FORCES WITH MAX WEIGHT ADJUSTMENT. NO OBVIOUS DEFECTS. ACTION TAKEN: REMOVED BLADES AND MOUNTING FORKS. VISUALLY INSPECTED AND FOUND NO DEFECTS. RE-ASSEMBLED AND STATIC BALANCED., REPAIRED IAW BO-105 REM 301, MM CH 33, 34, 102 & 106.

BOLKMS BRAKE DAMAGED 04/04/2002 10777
BO105S AHA1121MOD12 MAIN ROTOR ERAA078464
INNER PISTON FROZEN. NEEDED ON ADDITIONAL SHIM INSTALLED UNDER THE DISC SPRINGS ON THE PIN RETRACTION. PADS MISSING.EXCLUDER DUST BOTH TORN. ACTION TAKEN: REPAIRED AND TESTED.

BOLKMS ALLSN SLEEVE ROUGH 03/06/2002
BO105S 250C20B 1053176201 T/R PITCH CHANGE CA020322002
(CAN) DURING MAINTENANCE TO REPLACE RUDDER BELLOWS BETWEEN SUBJECT SLIDING SLEEVE WAS FOUND TO BE VOID OF GREASE AND THE DUPLEX BEARINGS WERE DRY AND “RATTLING” WHEN SPAN. BASE MAINTENANCE STAFF WERE UNAWARE OF THE PRESENCE OF A NEEDLE POINT GREASE FITTING ON THE SLEEVE TO FACILITATE LUBRICATION. STAFF INFORMED ME THEY WERE INSTRUCTED BY THE LAST PERMANENT SUPERVISOR ON PROCEDURES FOR INSPECTION, CLEANING AND LUBRICATING SPLINES BUT WERE UNAWARE OF REQUIREMENTS TO LUBE BEARINGS. (C.A.M.P. CODE 672046 LUBE T/R SLIDING SLEEVE OPS 2,3,4.)

CESSNA LYC LYC PUSHROD CRACKED 04/18/2002
152 O235L2C O235L2C 15F22200 RECIPROCATING AUS20020364 1091
(AUS) DURING PERIODIC ENGINE INSPECTION, THREE PUSHRODS WERE FOUNDCRACKED AT THE BALLENDS. TWO HAD CRACKS 0.470IN (12MM) LONG AND THE THIRD HAD A CRACK JUST STARTING.

CESSNA LYC RUDDER HORN CRACKED 04/04/2002 13329
172M O320E2D 05310081 TAIL CA020425003
(CAN) DURING ROUTINE INSPECTION THE RUDDER HORN ASSY AT THE AREA WERE THE HORN STRIKES THE RUDDER STOPS HAD BEEN DAMAGED. WE BELIEVE BY GUSTY WINDS WITHOUT THE RUDDER LOCK ON. THE RUDDER STOP SCREW HAD ACTUALLY ROLLED THE ALUMINIUM BACK ON THE HORN WHICH MADE FOR A HAZARDOUS SITUATION DUE TO THE FACT THAT THE STOP SCREW COULD HAVE JAMED OVER THE ROLLED ALUM.THE RUDDER HORN AND RIB ASSY. HAVE BEEN REPLACED WITH NEW UNITS. NO DAMAGE WAS FOUNDS IN THE STOP ATTACHEMENT AREA.

CESSNA LYC CONTROL BROKEN 04/26/2002 7000
172N O320A2D 0510105224 AILERON 2002FA0000542
LEFT AILERON DIRECT CONTROL CABLE SEPARATED IN FLIGHT RESULTING IN A FATAL ACCIDENT. THE CABLE P/N 0510105-224 WAS VERY BADLY RUSTED AT THE POINT OF FAILURE LOCATED ABOVE THE RIGHT DOORPOST WHERE THE CONTROL CABLE RIDES OVER A PULLEY. THE PULLEY IN THIS AREA WAS VERY STIFF DUE TO A BADLY CORRODED BEARING. THIS APPEARS TO BE A RESULT OF POOR INSPECTION PROCEDURES. THE DOORPOST TRIM MUST BE REMOVER AND THE HEADLINER MUST BE OPENED TO PROPERLY INSPECT THIS AREA. IT IS A REQUIREMENT OF THE ANNUAL INSPECTION TO INSPECT THE FLIGHT CONTROL SYSTEMS, THE ENTIRE SYSTEM, NOT JUST THE EASY PART. THINK TWICE BEFORE YOU SIGN OFF YOUR NEXT INSPECTION.

CESSNA LYC SPRING DISCONNECTED 04/02/2002 14032
172N O320H2AD 03101965 RUDDER CA020411007
(CAN) DURING THE PRE-FLIGHT INSPECTION, THE FLIGHT INSTRUCTOR NOTICED A COMPLETE DEFLEXION OF THE RUDDER CONTROL (TOWARDS THE RIGHT) WHEN THE NOSEWHEEL WAS CENTERED. AS WELL, THE PEDALS WERE NOT EVEN. DURING MAINTENANCE, NOTICED THAT THE FRONT PART OF THE SPRING WAS UNHOOKED. INSPECTED THE AFFECTED PARTS AND REPLACED THE SPRING, EVEN THOUGH IT WAS NOT BROKEN.

CESSNA LYC BOLT SHEARED 03/07/2002
172P O320D2J S21381 MLG CA020422003
(CAN) WHILE ATTEMPTING TO REMOVE THE LT MLG LEG TO FACILITATE A REPAIR TO AN ADJACENT AREA, IT WAS DETERMINED THAT THE MAIN ATTACH BOLT WAS SOMEHOW SEPARATED AS INSTALLED THROUGH THE INBOARD SUPPORT AND THE GEAR LEG. EVENTUAL REMOVAL OF THE BOLT REVEALED THAT IT HAD BEEN SHEARED AND WAS SOMEWHAT SIEZED BUT ALSO HELD IN PLACE BY THE NATURAL LOAD OF THE GEAR AS INSTALLED IN THE SUPPORTS. THE AIRCRAFT WAS INSPECTED FURTHER AND NO RELATED DAMAGE WAS FOUND. THE BOLT WAS REPLACED AND THE AIRCRAFT WAS RELEASED TO SERVICE. AIRCRAFT TOTAL TIME WAS 15945.7 HOURS WITH NO RECORD FOUND OF

CESSNA LYC CESSNA BULKHEAD CRACKED 03/13/2002
172P O320D2J 055032111 055032111 SPINNER CA020411005
(CAN) SECOND PART FAILURE IN THE SAME AREA HEARD REPORTS OF THIS PART FAILING FROM OTHER OPERATORS. SPINNER AND AFT BULKHEAD HAVE A VERY POOR FIT.

CESSNA WIRE SHORTED 05/01/2002
172S VOLTAGE REG 2002FA0000567
ALTERNATOR FIELD C/B POPED IN FLIGHT. PILOT RESET C/B, SMELLED SMOKE IN THE COCKPIT, C/B POPED AGAIN. THE PILOT MADE A PRECAUTIONARY LANDING AT MNN. AN INVESTIGATION OF THE PROBLEM DETERMINED THAT THE RED VOLTAGE REGULATOR WIRE HAD SHORTED ON THE GROUNDING POST OF THE RELAY BELOW CAUSING A SHORTED WIRE FROM THAT POINT TO THE 5 AMP C/B, ALTERNATOR FIELD.

CESSNA	CONT		AIR BOX	CRACKED	04/10/2002	
182G	O470*		075014421	ENGINE	2002FA0000589	

SEVERAL CRACKS IN HOUSING, BOTH IN ALUMINUM AND STAINLESS STEEL. SERVICEABLE PART INSTALLED ABOUT 375 HOURS OPERATING TIME. SUGGEST MORE ATTENTION BE GIVEN THIS ITEM AND THE WAY IT IS ATTACHED, FOR SECURITY. HIGH VIBRATION AREA. CHECK PROPELLER FOR BALANCE.

CESSNA	LYC		COMPUTER	FAILED	02/22/2002	
182S	TIO540*			AUTOFLIGHT	2002FA0000621	

THE AC WAS IN LEVEL FLIGHT WITH AUTOPILOT TURNED OFF. WHEN THE AUTOPILOT COMPUTER, WITHOUT INPUT FROM THE PILOT GAVE AN INDICATION THAT (PITCH WARNING) LIGHT CAME ON WITH A (UP) ARROW. THE PILOT PULLED THE AUTOPILOT CIRCUIT BREAKER TO TURN OFF SYSTEM. ANOTHER FLIGHT WITH THE AUTOPILOT SYSTEM (ON) THE ELECTRIC TRIM STARTED TO RUN AWAY IN THE NOSE UP ATTITUDE AND THE PILOT WENT TO PRESS THE AUTOPILOT DISCONNECT ON THE CONTROL WHEEL, WITH NO RESULTS. THE PILOT PULLED THE AUTOPILOT CIRCUIT BREAKER TO STOP THE OCCURRENCE AND MANUALLY TRIMMED AS REQUIRED. MAINTENANCE DISABLED AUTOPILOT SYSTEMWHICH INCLUDES THE ELECTRIC TRIM.

CESSNA	PWA		HUB	CRACKED	04/22/2002	3450	
208B	PT6A114A		D6382	PROPELLER	2002FA0000550	3063	

PROPELLER WAS DISASSEMBLED AND INSPECTED FOR OVERHAUL. PROPELLER HUB WAS STRIPPED, ETCHED AND DYE PENETRANT INSPECTED. INDICATIONS OF CRACKS WERE APPEARANT AT 5 LOCATIONS ON THE REAR HALF OF THE HUB NEXT TO THE REAR BETA ROD BUSHING SOCKETS. EDDY CURRENT INSPECTION VERIFIED ALL LOCATIONS WERE CRACKED. PART WAS RETIRED FROM SERVICE.

CESSNA	CONT	CONT	VALVE GUIDE	LOOSE	04/19/2002		
210L	IO520L	IO520L	643767P005	RECIPROCATING	AUS20020378	517	

(AUS) NO.2 CYLINDER REVEALED A LEAKING EXHAUST VALVE DURING A COMPRESSION TEST AND ON DISASSEMBLY THE EXHAUST AND INLETGUIDESFELL OUT OF THE HEAD. FURTHER INVESTIGATION OF THE REMAINING CYLINDERS FOUND THAT THE NO.4 CYLINDER INLET GUIDE WAS ALSO LOOSE IN HEAD. PERSONNEL/MAINTENANCE ERROR.

CESSNA	CONT		BRACKET	BROKEN	04/25/2002	6950
402C	TSIO520*		51220466	RT WING	2002FA0000618	

LOWER RIGHT FLAP BELLCRANK BRACKET BROKE DUE TO CORROSION FROM ENGINE EXHAUST. LEFT WING INSPECTED, PARTS SHOW NO CORROSION.

CESSNA	CONT		SPRING	MISINSTALLED	04/02/2002	
421C	GTSIO520*			FUEL PUMP	2002FA0000583	

AUXILIARY FUEL PUMP WAS RECEIVED NEW FROM SUPPLIER. ONCE INSTALLED , IT FAILED MFG SM CHECK . WHEN REMOVED FOR BENCHCHECK, IT WAS DISCOVERED, SPRING IN THE OUTLET SIDE IS MISINSTALLED.

CESSNA			STUD	BROKEN	05/03/2002	3673
550			65412045	RT MLG STRUT	2002FA0000635	3673

DURING SCHEDULED REPLACEMENT OF THE MLG STRUT CYLINDERS, THE HYD ACTUATOR ATTACH STUD WAS BEING REMOVED FOR RE-USE. UPON APPLYING A TENSION LOAD ON THE STUD TO REMOVE IT, PER MM, THE STUD SEPARATED ALONG THE THREADS WELL BELOW THE MAX TORQUE LIMIT, THE CRACK BEGAN APPROX 1 THREAD UP FROM THE BASE AND EXTENDED UP THREE THREADS, STOPPING APPROX 1 THREAD BEFORE THE COTTER PIN HOLE. EXAMINATION REVEALED THAT THE FRACTURE HAD EXISTED FOR SOME TIME AND THAT IT EXTENDED THROUGH APPROXIMATELY 80 PERCENT OF THE STUD. THE POINT AT WHICH THE FRACTURE BEGAN IS THE SAME POINT AT

CESSNA	PWA		SEAT BACK	CRACKED	04/26/2002	
550	JT15D4		551900921	COCKPIT	2002FA0000647	

UPPER SEAT BASE ASSEMBLY CRACKED AT SEAT BACK ATTACH POINTS. STRESS ON SEAT BACK AND METAL FATIGUE PROBABLE CAUSE. SEAT WAS REPAIRED.

CESSNA	PWA		BOLT	WRONG PART	04/30/2002	
550	PW530A		AN66A	GENERATOR	2002FA0000626	

A LOOSE GENERATOR GROUND CABLE BOLT WAS DISCOVERED WHILE TROUBLESHOOTING AN AMMETER SPLIT BETWEEN THE LEFT AND RIGHT ENGINE GENERATORS. AN AN610A BOLT WAS FOUND INSTALLED INSTEAD OF THE CORRECT AN6-6A BOLT. THE BOLT WAS TOO LONG AND TORQUE COULD BE REACHED.

CESSNA	PWA		CONNECTOR	DAMAGED	04/15/2002	
550	PW530A			EXTERNAL POWER	CA020416005	

(CAN) PILOTS REPORTED THAT THEY COULD NOT START EITHER ENGINE USING EXTERNAL POWER BUT ENGINES STARTED FINE USING BATTERY POWER. MAIN POWER CABLES AND GROUND CABLE FOUND LOOSE AT GPU CONNECTOR. BOTH THE CONNECTOR STUDS AND THE POWER CABLE ENDS BURNED AND MELTED. PARTS REPLACED

CESSNA	PWA		SERVO	MALFUNCTIONED	04/29/2002	
560XL	PW545A		666000178	RUDDER	CA020502027	

(CAN) DURING A PHASE INSPECTION, THE AUTO-PILOT SERVO CABLE AND THE SECONDARY RUDDER CABLE WERE FOUND CROSSING EACH OTHER BETWEEN THE LOWER AFT RUDDER SECTOR AND PULLEYS AT THE 63 PERCENT VERTICAL SPAR IN ZONE 340.THE AUTO-PILOT SERVO CABLE HAS BEEN RE-ROUTED AS PER MAINTENANCE MANUAL AND CESSNA SERVICE CENTER HAS BEEN ADVISED.

CESSNA			STIFFENER	CRACKED	03/05/2002	
650				NLG	53550	

LT AND RT OUTBOARD NOSE GEAR TRUNNION SUPPORT STIFFENERS ARE CRACKED 4 INCHES AFT OF FS 94.0 REPAIRED BY REPLACING DOUBLERS 6213011-139 AND 6213011-140. POSSIBLY CAUSED BY INCORRECT TOWING PROCEDURES.

CESSNA	GARRTT		HINGE	CRACKED	04/23/2002	
650	TFE731*		6732030	ELEVATOR	2002FA0000627	

CRACKS WERE FOUND IN BOTH INBOARD ELEVATOR HINGES DURING A SCHEDULED INSPECTION. THE HINGES ARE ATTACHED TO THE HORIZONTAL STABILIZER AND ARE LOCATED AT THE INBOARD END OF EACH ELEVATOR. THE CRACKS EXTEND APPROXIMATELY .20 INCH IN LENGTHAND ARE LOCATED ON THE UPPER AFT END OF THE INBOARD

CESSNA	ALLSN		BRACKET	CRACKED	04/23/2002	
750	AE3007C			ELEVATOR HINGE	CA020429001	

(CAN) COMPLIED WITH CESSNA CUSTOMER LETTER NO 0423 DATED APRIL 23, 02. (INSPECTION OF LT AND RT ELEVATOR INBD HINGE BRACKETS) ONE BRACKET HAS TWO SURFACES: INBD AND OUTB.FOUND LEFT ELEVATOR INBD HINGE BRACKET CRACKED. INBD CRACK DIMENSION:. 062 INCH OUTB CRACK DIMENSION : .125 INCH, RT ELEVATOR INBD HINGE BRACKET CRACKED. INBDNONE OUTB CRACK DIMENSION: .180 INCH. ACTION: RE-INSPECT IN 100 HRS

CESSNA	CONT		CONTROL	BROKEN	04/29/2002	1950
T310R	TSIO520*		0860207180	AILERON	2002FA0000629	

ALL FOUR CONTROL CABLES HAD STRANDS BROKEN. THE LEFT FORWARD CARRY THRU CONTROL CABLE HAD APPROXIMATELY 70 PERCENT OF ITS STRANDS BROKEN DUE TO CONTACT WITH PULLEY GUARD. THE OTHER PROBLEM IS WHERE CONTROL CABLES COME OUT OF FUSELAGE RUBBING ON PHENOLIC BLOCK.

CIRRUS CONT MOUNT CHAFED 11/19/2001 101
SR22 IO550* ENGINE 2002FA0000524
DURING THE 100 HOUR INSPECTION, A FUEL LINE CLAMP WAS FOUND CHAFING ON THE ENGINE MOUNT. THE CLAMP HAD CHAFED APPROXIMATELY .006 INTO ONE OF THE ENGINE MOUNT TUBES. THE CLAMP FOR THIS LINE APPEARS TO BE TOO LONG, ALLOWING IT TO CONTACT THE MOUNT TUBE. THE ENGINE MOUNT WAS REPLACED AND THE CLAMP ATTACH BRACKET WAS SHORTENED SO AS TO PREVENT A REOCCURANCE OF THIS CONDITION. THIS AREA SHOULD BE GIVEN A CLOSE INSPECTION FOR CHAFING AND THE CLAMP REPOSITIONED OR THE BRACKET SHORTENED.

CURTIS ALLSN RELAY FAULTY 03/23/2002
P40NREED V1710* A700ZF DC GENERATING SY AUS20020311
(AUS) REVERSE CURRENT RELAY (RCR) FAILED. BATTERY DISCHARGED ANDRESULTED IN A TOTAL POWER FAILURE.

DHAV PWA FITTING CRACKED 03/26/2002
DHC2MK1 R985AN14B 901230602 MLG FLOAT CA020430010
(CAN) CORROSION AND STRESS CRACK DEVELOPED ON TAPER HOLE OF THE SPREADER ATTACH FITTING RT FLOAT TOWARD SPREADER ATTCH P/N 901-23060-2 WAS REMOVED AND QUARANTINED. REPLACEMENT PART SI 901-23060-2 WAS INSTALLED AS PER STC SF-97-2.

DHAV PWA ROD LOOSE 04/11/2002
DHC6300 PT6A27 C6CT10461 TE FLAP CONTROL CA020416002
(CAN) AFTER COMPLETING AD CF-80-03 & SB6/390 THE TRIM ROD WAS BEING ADJUSTED AT INSTALLATION WHEN IT WAS FOUND THAT THEFORWARD SWAG WAS ALLOWING THE ROD END FITTING TO ROTATE. THE ROD WAS REPLACED.

DIAMON ROTAX O-RING FAILED 03/24/2002
DA20A1 ROTAX912F3 PRP0119026 PROPELLER CA020409001
(CAN) PROP REPLACED ON AIRCRAFT AFTER TROUBLESHOOTING PROPELLER CONTROL SYSTEM AND INSPECTING OIL PUMP AND LINES. NO DEFECTS FOUND IN PUMP, LINES OR WITH GOVERNOR ASSY. REPLACING PROP SOLVED PROBLEM. DISASSEMBLY REVEALED DAMAGED SEALIN FRONT OF PITCH CHANGE PISTON CAUSING OIL PRESSURE TO BUILD UP ON BACKSIDE OF PISTON, AND FORCING PROP TO COARSE PITCH. THIS OIL PRESSURE WAS GREATER THAN RETURN SPRING PRESSURE AND THE HUB HAS NO DUMP PROVISION IN THIS AREA TO ALLOW OILTO RETURN TO THE

ENSTRM LYC CONNECTING FAILED 03/01/2002 200
280C HIO360E1AD ENGINE 2002FA0000586
NR 2 CONNECTING ROD BOLT FAILED CAUSING CONNECTING ROD TO GO THROUGH CRANK CASE CAUSING MAJOR ENGINE FAILURE. ENGINE DESTROYED. TOP OF BOLT FAILED CAUSING ROD CAP TO BEND BACK AND EVENTUALLY FAIL. THREADED END OF THE BOLT FOUND IN BOTTOM OF ENGINE CASE IN GOOD CONDITION. NO SIGN OF OVERREV COULD BE FOUND IN OTHER BOLTS OR RODS.

ENSTRM LYC BULKHEAD DAMAGED 03/20/2002
F28C HIO360E1AD VARIOUS TAILBOOM AUS20020292 640
(AUS) TAIL BOOM BULKHEAD AND SKINS CRACKED. INCORRECT ANCHOR NUTFITTED.

EXTRA SKIN DELAMINATED 05/06/2002 210
EA300 ER863072500 WING 2002FA0000577
POSSIBLE WING SKIN DELAMINATION DISCOVERED. CRACKS IN PAINT IS REASON FOR DISCOVERY. POSSIBLE DELAMINATION AREA IS 72" OUTBOARD ON TOP SIDE OF RIGHT WING AND EXTENDS APPROXIMATELY 30" FURTHER OUTBOARD. DELAMINAITON AREA STARTS 2.25" AFTOF THE LEADING EDGE AND EXTENDS 11.5" AFT CORDWISE. ACTUAL DELAMINATION FOUND IN TWO OTHER AIRCRAFT OF THE SAME MODEL,AND OPERATED BY THE SAME OWNER. CAUSE UNKNOWN AT THIS TIME, BUT COULD BE FUEL TANK RELATED DUE TO THE AREA OF DAMAGE.

GROB LYC HANDLE FAILED 04/12/2002 87
G102ASTIR AEIO540D4A5 GH115TA MLG 2002FA0000514
LANDING GEAR WAS CYCLED TO THE DOWN POSITION IN FLIGHT, BOTH MAIN GEAR DOWN LIGHTS CAME ON AND THE NOSE GEAR DOWN LIGHTS CAME ON AND THE NOSE GEAR DOWN LIGHTS FAILED TO COME ON. THE SYSTEM WAS TESTED IAW FLIGHT MANUAL PROCEDURES AND THE LIGHTS FOR THE NOSE GEAR DOWN HAD FAILED. A SAFE LANDING WAS MADE. INSPECTION OF THE GEAR SYSTEM FOUND THAT BOTH LIGHTSIN THE GEAR HANDLE HAD FAILED. NEW GEAR HANDLE CONTROL ASSEMBLY WAS INSTALLED, SYSTEM CHECKED NORMAL.

GROB LYC PUMP FAILED 04/15/2002 14
G102ASTIR AEIO540D4A5 X030001 HYD SYSTEM 2002FA0000515
THE LANDING GEAR WAS SWLECTED IN FLIGHT TO THE DOWN POSITION; THE RIGHT MAIN GEAR LIGHT FAILED TO COME ON IN THE DOWN AND LOCKED POSITION. THE AIRCRAFT WAS YAWED AND THE DOWN AND LOCK GEAR LIGHT CAME ON. A SAFE LANDING WAS MADE. AIRCRAFT WAS TAKEN TO MAINTENANCE AND PLACED ON JACKS, THE SYSTEM CHECKED AND FOUND THE GEAR HYDRAULIC MOTOR HAD FAILED (BURNEDUP), A NEW HYDRAULIC ASSEMBLY WAS INSTALLED. THE LANDING GEAR WAS CYCLED IAW MM, SYSTEM CHECKED NORMAL.

GULSTM CONTROL BROKEN 05/14/2002 8150
500B 550000151 ELEVATOR TRIM 2002FA0000642
ELEVATOR TRIM CABLE BROKE WHILE ON APPROACH. CABLE BROKE WHERE IT WRAPPED AROUND AN AUTOPILOT TRIM ACTUATOR THAT HAD BEEN DEACTIVATED. CORRECTIVE ACTION WAS TO REMOVE THE OLD TRIM ACTUATOR AND REPLACE ALL 4 ELEVATOR TRIM CABLES. AS A PRECAUTION ALSO REPLACED THE RUDDER TRIM CABLES.

HUGHES BEARING RACE CRACKED 04/20/2001
369D 369D25146 M/R TRANSMISSION 2002FA0000582
REMOVED MAIN ROTOR TRANSMISSION FOR AN OIL LEAK. FOUND FORWARD TAIN ROTOR O/P ASSEMBLY PINION BEARING INNER RACE. CRACKED. REPLACED BEARING ASSEMBLY.

HUGHES ALLSN STRUT BROKEN 03/15/2002
369D 250C20 369H600152 MLG 2002FA0000545
FOUND LANDING STRUT BROKEN AT THE DRAG BRACE BOLT HOLE. REMOVED AND REPLACED STRUT.

HUGHES ALLSN BLEED VALVE ERRATIC 03/22/2002
369D 250C20B ENGINE 2002FA0000544 450
DURING FLIGHT THE COMPRESSOR STALLED A COUPLE OF TIMES. BOTH DURING A POWER CHANGE AND IN A STABLE POWER SETTING. REMOVED BLEED VALVE AND REPLACED WITH A SERVICEABLE UNIT AND THE PROBLEM WAS

HUGHES ALLSN TORQUE TUBE CRACKED 03/18/2002
369D 250C20B 369A7500501 369H75319 T/R PEDAL CA020430004
(CAN) -PILOT NOTICED LOSS OF T/R AUTHORITY WITH A SPONGY FEEL JUST AS HE WAS PULLING INTO A HOVER. HELICOPTER WAS LANDED AND SHUTDOWN.- T/R PEDAL ASSEMBLY WAS FOUND CRACKED ALMOST 360 DEGREES.- CRACK ORIGINATED FROM UNDER 369A7511 FITTING WHERE THE ATTACH HOLE IS LOCATED.

HUGHES ALLSN SPRAG CLUTCH BROKEN 02/22/2002
369D 250C20B 369D25351 MAIN ROTOR CA020430005
(CAN) UPON THE 300 HOUR INSPECTION OF THE SPRAG ASSEMBLY IT WAS FOUND THAT ONE OF THE SPRAGS WAS BROKEN. THE BREAK WAS AT THE FAR END OF THE SPRAG WHERE THE PROFILE CHANGES.

LEAR	GARRTT		ACTUATOR	LEAKING	04/01/2002	
35A	TFE73122B		2327100506	MLG	CA020417003	

(CAN) ON GEAR EXTENSION, 3 GREENS, 1 UNSAFE ON RT SIDE. ON RETRACTION, NO GREENS LIGHTS, THREE UNSAFE. TWO MORE EXTENSIONS CARRIED OUT WITH SAME RESULT. GEAR EXTENDED AS PER EMERGENCY CHECK LIST(BLOWN DOWN). GEAR SWING CARRIED OUT ON JACKS, FOUND RT GEAR ACTUATOR LEAKING INTENALLY, REPLACED ACTUATOR. CHECKED SERVICEABLE.

LEAR		BEARING	SHIFTED	04/16/2002	
45LEAR		MS276416	ELEVATOR HINGE	CA020418001	

(CAN) WHILE CARRING OUT INSPECTION ON THE ELEVATOR, FOUND EXCESSIVE PLAY ON RT ELEVATOR. UPON FUTHER INSPECTION FOUNDOUTBOARD HINGE BEARING HAD SHIFTED CAUSING ELEVATOR TO BIND. THIS CAUSED WEAR ON THE CENTER HINGE PICK-UP, PUSH-ROD AND DISCONNECT ASSY.

MAULE	LYC	COTTER PIN	MISSING	05/02/2002	149
MX7235	IO540*		TRIM WHEEL	2002FA0000569	

PILOT REPORTED HE COULD NOT TRIM ALERIONS. REMOVED COVER AND FOUND BOLT HOLDING LARGE, GEARED TRIM WHEEL WAS MISSING COTTER KEY AND NUT HAD BACKED OFF, ALLOWING LARGE GEAR TO SLIDE TO SIDE ABOUT 3/8 IN. HAD TO COME FROM FACTORY THIS WAY. TIGHTENED NUT AND PLACED COTTER KEY IN SLOT.

MOONEY	CONT	CONTROL ROD	CRACKED	02/28/2002	
M20C	IO360*	7300051	AILERON	AUS20020382	

(AUS) LT AND RT AILERON CONTROL LINKS CRACKED. FOUND IAW AD/M20/52 & MOONEY SB M20-264.

MOONEY	LYC	STRUT	CRACKED	04/08/2002	
M20C	O360A1D	5200011	MAIN LANDING	AUS20020351	

(AUS) LH MAIN LANDING GEAR LEG ASSEMBLY CRACKED AT THE UPPER FORWARDWELD JOINT.

MOONEY	LYC	ACTUATOR	FAILED	04/26/2002	4997
M20F	IO360A1A	41960016	MLG	2002FA0000625	

WHEN PILOT SELECTED GEAR DOWN INCOMPLETE EXTENSION OCCURRED. ATTEMPTS TO EXTEND THE GEAR MANUALLY ALSO FAILED. AFTER THE AIRCRAFT WAS RETREIVED, PLACED ON JACKS AND BELLY PANELS REMOVED, IT WAS DISCOVERED THE MAIN LANDING GEAR ACTUATOR (DUKES) COUPLING BETWEEN THE MOTOR AND TRANSMISSION WAS SEPARATED, ALSO, THE MOTOR WAS FOUND NOT TO RUN ELECTRICALLY. PROBABLE CAUSE: MOTOR/ TRANSMISSION COUPLING SEPARATED, CAUSING MOTOR TO SEIED. COUPLING IS 30+YEARS OLD.

PILATS	PWA		FAN BLADE	BENT	02/20/2002	
PC1245	PT6A67B	9686781507	5113412233	CABIN HEATER	CA020225002	

(CAN) CREW REPORTS GROWLING NOISE WHEN TURNING ON CABIN HEATER. INSPECTED CABIN HEATER INLET DUCT AND FOUND I.D.TAG FROM BAGGAGE NET JAMMED IN FAN SHROUD. CABIN HEATER REQUIRED REPLACEMENT. INLET IS LOCATED BELOW REAR BAGGAGE AREA AND HAS FAIRLY LARGE GRILL OPENINGS. PILATUS S.B 25-016 REQUIRES INSTALLATION OF I.D. TAGS ON BAGGAGE NETS. TAGS WERE TO BE ATTACHED WITH WIRE CABLE. TAGS SHOULD BE INSPECTED PERIODICALLY FOR SECURITY.

PILATS	PWA	PRESSURE	FAILED	03/20/2002
PC1245	PT6A67B		HYD SYSTEM	CA020327004

(CAN) AFTER TAKEOFF, REPORTED THE HYDRAULIC PUMP SEEMED TO RUN LONGER THAN NORMAL, AND THAT THE UNDER FLOOR HEATER WASNOT FUNCTIONING. INVESTIGATION REVEALED THAT THE HYDRALIC SYSTEM PRESSURE SWITCH WAS INTERMITTENT, CAUSING THE HYDRAULIC PUMP TO RUN UNTILL THE THERMAL SWITCH SHUT IT OFF, AND ALSO DISABLEING THE UNDER FLOOR HEATER. THE SWITCH WAS REPLACED WITH NEW, AND THE SYSTEM

PIPER	LYC	TORQUE LINK	DAMAGED	04/16/2002	6416
PA28140	O320*	PA6469100	LT MLG STRUT	2002FA0000623	

DURING LANDING LT LOWER STRUT ASSEMBLY SEPERATED FROM UPPER CYLINDER. LOWER TORQUE LINK FAILED IN AREA ABOVE MACHINED BOSS AT THE LOWER STRUT ATTACHMENT END, ALLOWING THE LOWER STRUT / WHEEL ASSEMBLY TO BLOW OUT OF THE UPPER CYLINDER. THIS PN TORQUE LINK REQUIRES 500 HOUR RECURRING INSPECTION IAW AD. PROBABLE CAUSE, FATIGUE. REMOVE FROM SERVICE AND REPLACE WITH LATEST TORQUE

PIPER	LYC	FLOAT	INOPERATIVE	04/02/2002
PA28161	O320D3G		CARBURETOR	2002FA0000538

CARBURETOR WAS FOUND INOPERABLE CONDITION ON AIRCRAFT. UPON INSPECTION, A PARK FUEL STAIN WAS NOTED DEAR AIRBOX IN THECARBURETOR THROAT. CLOSER INSPECTION REVEALED A SMALL HOLE IN THROAT PASSING INTO BOWL. OTHER SMALL CRACKS AND A VERYROUGH CASTING WAS NOTICED IN SAME AREA OF THROAT.

PIPER	LYC	SPAR	CORRODED	03/21/2002
PA28180	O360A4A	6205600	LT & RT WING	CA020327002

(CAN) PLATES TO BOTH THE LEFT & RIGHT ATTACHMENT OF AFT WING SPAR TO FUSELAGE FOUND BADLY CORRODED AND NECESSITATED REPLACEMENT.THIS WILL CAUSE DISSIMILAR METAL. THE PLATES ARE RIVETED TO THE AFT SPAR. NEW PLATES ORDERED. ATTACHED PHOTO SHOWS CONDITION. THE ALUMINUM AFT SPAR INSPECTED FOR CONDITION OF CORROSION AND DETERMINDED SERVICEABLE. ADEQUATE CLEANINGAND CORROSION TREATMENT

PIPER	LYC	HUB	MISREPAIRED	04/12/2002
PA28236	O540J3A5	C32303	PROPELLER	AUS20020356

(AUS) PROPELLER HUB HAD BEEN MACHINED IN THE AREA OF THE PRELOAD PLATE SHELF TO REMOVE DAMAGE CAUSED BY A GROUND STRIKE. MACHINING INTHIS AREA IS NOT APPROVED BY THE MANUFACTURER. UNAPPROVED REPAIR. PERSONNEL/MAINTENANCE ERROR.

PIPER		ADAPTER	SHEARED	03/26/2002	272
PA28R201		99047000	INDUCTION	2002FA0000526	

THE ALTERNATE AIR DOOR HINGE IS ATTACHED BY 3 (AN470AD3) SOLID RIVETS. THE 3 RIVETS SHEARED AND THE AIR DOOR BECAME LODGED IN THE FUEL CONTROL SERVO THROTTLE BODY. THIS OCCURRED ON TAKEOFF AND THE PILOT WAS ABLE TO SET THE AIRCRAFT BACK DOWN SAFELY. RECOEND LARGER SUPPORT FOR HINGE AND MORE

PIPER	LYC	DOUBLER	CRACKED	04/03/2002	
PA28R201	IO360C1C6	3564016	AILERON	CA020503002	

(CAN) DURING AN UNSCHEDULED MAINTENANCE EVENT (AILERON ADJUSTMENT), WE DISCOERED THAT THE LT AILERON OUTBOARD DOUBLER WAS CRACKED ON THE INBOARD TOP CORNER. THE CRACK WAS 1 INCH LONG.

PIPER	LYC	TRUNNION	BROKEN	04/16/2002	5554
PA28RT201	IO360A1A	6705403	NLG	2002FA0000518	

DURING ANNUAL INSPECTION, FOUND NOSE STRUT HOUSING BOSS WHERE LOWER DRAG LINK ATTACHES, BROKEN. HALF OF BOSS WAS MISSING, THE ASSEMBLY WAS SO COVERED WITH GREASE, MISSING PORTION OF BOSS WASNT VISABLE UNTIL CLEANED OFF. UNKNOWN HOW LONG HAD BEEN WHEN, SPECULATE, HARD LANDING OR MISRIGGED SYSTEM COULD HAVE CONTRIBUTED TO FAILURE.

PIPER	LYC	PIPER	BOLT	SHEARED	04/22/2002	
PA44180	O360E1A6	8628003	NAS464P427	DRAG LINK	CA020422001	

(CAN) SCHEDULED INSPECTION OF THE AIRCRAFT NOSE LANDING GEAR REVEALED THAT THE DRAG LINK ATTACH BOLT WAS PARTIALLY BACKED OUT ON BOTH SIDES. FURTHER INVESTIGATION CONFIRMED THAT THE BOLT HAD SHEARED IN SERVICE AND WAS WORKING ITS WAY OUT.

PIPER	LYC	AIR BOX	CRACKED	04/29/2002	
PA44180	O360E1A6	86245834	ENG CARBURETOR	2002FA0000653	

DURING 100 HOUR INSPECTION, TECH FOUND RIGHT AND LEFT ENGINE CARBURETOR HEAT AIRBOXES CRACKED. RIGHT AIRBOX WAS CRACKED AT HOT AIR INLET, LOCATED AT THE POINT WHERE TUBE IS WELDED TO AIRBOX AND EXTENDING HALFWAY AROUND THE TUBE. LEFT AIRBOX WAS CRACKED AT THE COLD AIR INLET AND EXTENDED ALMOST ALL THE WAY AROUND THE TUBE, RESULTING IN ALMOST COMPLETE SEPARATION OF THE TUBE FROM AIRBOX. CAUSE: MAY BE POOR DESIGN OF AIRBOX, WEAK WELDS AT BOTH HOT AND COLD AIR TUBES.

SKRSKY		BLADE	DEBONDED	04/04/2002	9656
S61N		6117020201067	MAIN ROTOR	ERAA078459	

ABRASION STRIP DEBONDING ABOUT 2 FEET FROM END. LAST POCKET NR 25 CRACKED ON TOP AND BOTTOM, COMING SEPERATED FROM SPAR. CUFF LEAKING AT BOLTS, NR 25 POCKET CRACKED AND VOID, O/B ABRASION STRIP VOID, CTR ABRAISION STRIP VOID, NR'S 13, 15, 16 POCKETS VOID, NR 12 POCKET CRACKED, POLY SPLICE COVER ERRODED. ACTION TAKEN: REPAIRED AS PER 8130-3 BLOCK NR 13.

SKRSKY	GE	LOCK	LOOSE	02/21/2002	
S61N	CT581401		M/R GEARBOX	CA020411004	

(CAN) AT FREEWHEEL CHANGE LOCKS WERE LOOSE. GEARS WERE REPLACED FOR FURTHER INSPECTION IN SHOP. PARTS WERE REMOVED FROM MAIN GEARBOX.

SNIAS		BEARING	FROZEN	03/27/2002	3849
AS350B2			YAW CONTROL	2002FA0000532	

DURING A SCHEDULED INSPECTION ON THIS AIRCRAFT, AEC SL WAS BEING COMPLIED WITH. THIS LETTER HAS LOOKING FOR OUT OF ROUND HOLE CONDITION ON THE YAW CONTROL LOAD COMPENSATOR LEVER. THE ARM ONLY MOVES APPROXIMATELY .30 DEGREES. WHEN THE CONTROL WAS REMOVED, IT WAS FOUND THAT THE BEARING HAD FROZEN. IT STILL MOVED IN ITS .30 DEGREE RANGE BUT THE REST OF THEBEARING WAS FROZEN AND ROUGH.

SNIAS	TMECA	BEARING	DELAMINATED	03/21/2002	
AS350BA	ARRIEL1B	704A33633208	MAIN ROTOR	CA020424002	

(CAN) UPON POST FLIGHT INSPECTION IT WAS FOUND THAT THE OUTBOARD ENDS OF THE SHPERICAL THRUST BEARINGS HAD BECOME DELAMINATED BEYOND SERVICEABLE LIMITS. THIS WAS DETERMINED BY INSERTING A FEELING GAUGE INTO THE VISIBLE CRACK IN THE ELASTOMER. PARTS WERE REPLACED WITH NEW ONES, NO FURTHER

ZLIN	LYC	SPRING	BROKEN	03/18/2002	
Z242L	AEIO360A1B6	Z4242170001	NLG STEERING	CA020408008	

(CAN) A STUDENT PILOT REPORTED EXCESSIVE MOVEMENT IN THE NOSE GEAR STEERING SYSTEM. A MAINTENANCE CHECK REVEALED THAT THE LT NOSE GEAR STEERING SPRING WAS BROKEN. THE SPRING WAS REPLACED USING THE MINIMUM COIL DISTANCE SETTING ON THE L/H &R/H SPRINGS. THE PROBLEM MAY BE RELATED TO NOT HAVING THE AIRCRAFT ROLLING BEFORE STEERING THE AIRCRAFT LEFT OR RIGHT.

OMB No. 2120-0003

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

MALFUNCTION OR DEFECT REPORT

OPER. Control No.	
ATA Code	
1. A/C Reg. No.	N-

Enter pertinent data	**MANUFACTURER**	**MODEL/SERIES**	**SERIAL NUMBER**
2. **AIRCRAFT**			
3. **POWERPLANT**			
4. **PROPELLER**			

5. SPECIFIC PART *(of component)* CAUSING TROUBLE

Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location.

6. APPLIANCE/COMPONENT *(Assembly that includes part)*

Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number

Part TT	Part TSO	Part Condition	7. Date Sub.

8. Comments *(Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)*

Optional Information:

Check a box below, if this report is related to an aircraft

☐ Accident; Date _____ ☐ Incident; Date _____

DISTRICT OFFICE

OPERATOR DESIGNATOR

OTHER | COMMUTER | FAA | MFG. | AIR TAXI | MECH. | OPER. | REP.STA.

SUBMITTED BY:

TELEPHONE NUMBER ( ) –

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